User Guide

Farm Works™ Mapping Software

Version 2015 or later
Revision A
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Trimble

Contact and Legal Information

Contact Details

Farm Works Information Management
A division of Trimble
PO Box 250
Hamilton, IN 46742
USA

USA	+1 800-282-4103
Canada	
Other countries	+1 260-488-3492
Europe	+44 1786-465100
Australia	+61 (3) 8680-7222
New Zealand	

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Release Notice

This is the January 2015 release, version 2015 or later, Revision A of the *Farm Works Mapping Software User Guide*.

Product Limited Warranty Information

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CHAPTER 1

Getting Started

In this chapter:

- Related information and technical support
- Installing the software
- Running the software for the first time
- Changing user information
- Changing the working date / system date
- Changing languages
- Interface overview
- Backing up projects
- Restoring project backups

This section describes how to get up and running with the Farm Works™ Office software. It also describes common software operations.

Related information and technical support

Farm Works provides a range of support options:

- You can email the technical support group at farmwork@farmworks.com with specific questions, or contact your local Farm Works office.
- If you are subscribed to an Update Service Plan, you can contact the technical support group at one of the following numbers:

USA	+1 800-282-4103
Canada	
Other countries	+1 260-488-3492
Europe	+44 1786-465100
Australia	+61 (3) 8680-7222
New Zealand	

  The Update Service Plan gives you access to current updates to all of your software modules as well as unlimited telephone support.

  For more information, go to http://www.farmworks.com/support/usp.php.

- Online discussion groups where you can post questions, and view questions and answers from many users.

  Go to http://www.farmworks.com/forum/.

- Frequently Asked Questions, which are updated regularly.

  Go to http://www.farmworks.com/support/faqs/index.php.

- Tutorials that show you how to use the software. Go to http://www.farmworks.com/support/flash/index.php.
- Release Notes that describe new features of the product, information not included in the manuals, and any changes to the manuals. Go to http://www.farmworks.com/support/version_changes.php.

For more information, go to www.farmworks.com.

Installing the software

To install the software:

1. Insert the installation disk into the CD/DVD drive of your desktop computer.

   The installation starts automatically.

2. Select the software module(s) or manual that you want to install / download and then follow the on-screen instructions.

   Some software modules require a software product code—these codes are located within your account on the Store or will be included with your software purchase.

Windows Vista and Windows 7 operating system

If you are running the software on a computer running the Windows Vista® or Windows® 7 operating system, and you receive an error message (for example, DBI Create Table Error) when you run the software, you may need to set the program shortcut to *Run as an Administrator*. For more information, see http://www.farmworks.com/files/faqs/General/Vista_and_7_Setup.pdf.

Registering the software

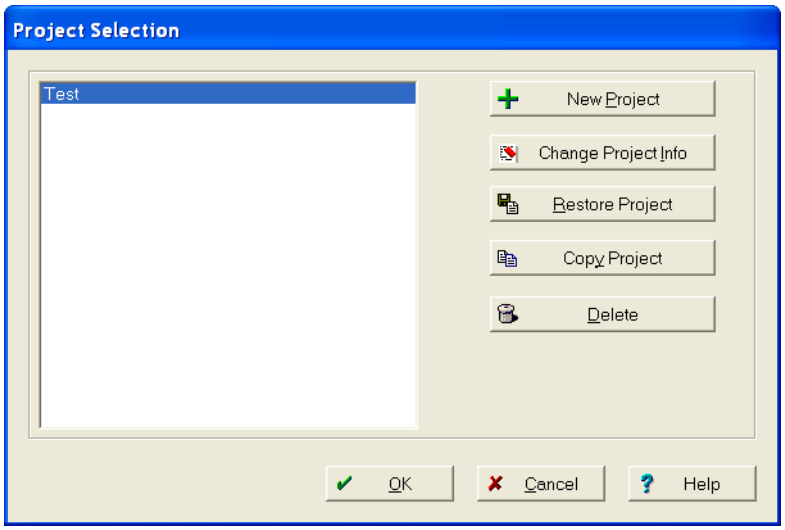
You must register your software to get full use of it. You can register the software automatically over the Internet by selecting the appropriate option when you run the software for the first time.

Alternatively, you can register your software by calling the number listed for support in the front of the manual or by contacting your Reseller. If you are calling to register, make sure that you are at your computer with the software installed and running.

Running the software for the first time

Creating and opening a farm project

Every time that you start the software, the *Project Selection* dialog appears.



In this dialog:

Click ...	To ...
A project name in the list	Select a project.
New Project	Create a new project. See Adding a new project, page 12.
Change Project Info	Change the project name and/or password.
Restore Project	Restore a backup of a project previously saved to another storage device.
Copy Project	Copy a project or part of a project.
Delete	Delete a project

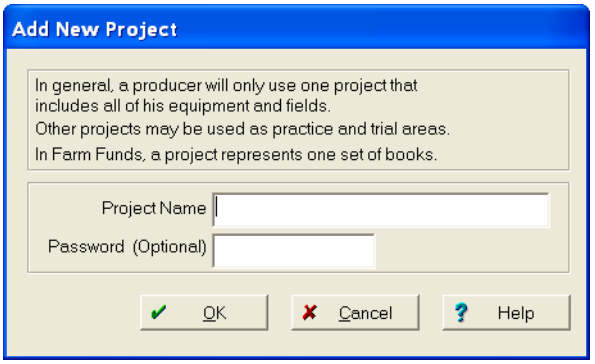
CAUTION – It is strongly recommended that you back up your projects frequently to protect vital project information in the event that a computer suffers hardware failure or become infected by a virus. The software saves the backup to your desktop computer's hard drive, but you can also save the backup to a removable medium, such as a flash drive or CD. See Backing up projects, page 20.

Adding a new project

If this is the first time you use the software, no projects will be listed in the *Project Selection* dialog.

To create a new project:

1. In the *Project Selection* dialog, click **New Project**.


Add New Project
In general, a producer will only use one project that includes all of his equipment and fields.
Other projects may be used as practice and trial areas.
In Farm Funds, a project represents one set of books.
Project Name
Password (Optional)
OK
Cancel
Help

2. In the *Add New Project* dialog, enter a name for the new project in *Project Name*. You can also enter a password in *Password*—this is optional.

   Passwords are case sensitive and may have up to eight letters and numbers, but no special characters, such as the at sign (@) or tilde (~). If no password is required, leave *Password* blank.

   To remove the password at a later date:

   a. In the *Project Selection* dialog, select the project and then click **Change Project Info**.

   b. Enter your password in the *Project Password* dialog and then click **OK**.

   c. In the *Project* dialog, select the password, press Delete on the keyboard and then click **OK.**

> ⚠ **CAUTION –** A password will protect your project, but if you forget it, you will not be able to view your project. Make sure that your password is easy for you to remember, but not easy for others to guess. If you do forget your password, contact the technical support team.

3. Click **OK** to return to the *Project Selection* dialog.

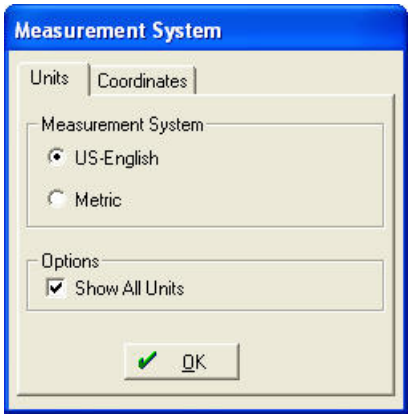
4. The *Project Selection* dialog displays the name of your project. To open your project, make sure that you have highlighted the correct project name and then click **OK**.

   The software creates a new blank project that you can start working in.

Note – *A project represents all of the maps, records, and accounting information for a farming operation. If the Farm Works Accounting software has been installed, each project will have a separate set of books and should represent a separate taxable entity. Most users require only a single project. The data in each project is kept separate from all other projects and there is no way to combine or merge the data from multiple projects.*

Selecting a measurement system

The first time that you open the software, you are prompted to select a measurement system.



Select the required option and then click **OK**. The options are:

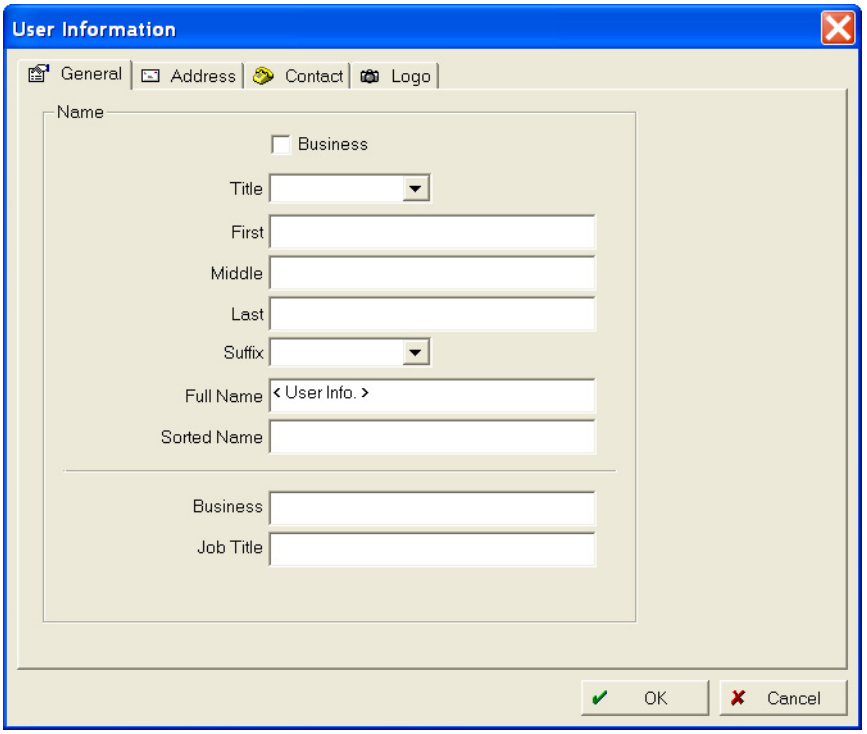
- US-English
- Metric
- Show All Units. This shows US and Metric units—the software uses the first selection (US-English or Metrics) for area and distance measurements, but gives both US-English and Metrics for any volume measurements.

The Show All Units option is suitable for users in Canada who want US distance and area measurements and metric volume and quantity measurements.

Changing user information

The contact information that is printed on many reports is sourced from the user information entered in the software. To change this:

1. Select *File / Preferences / User Info*.
2. In the *User Information* dialog, select the tabs in turn to enter the details that you want to appear on printed reports and then click **OK**.

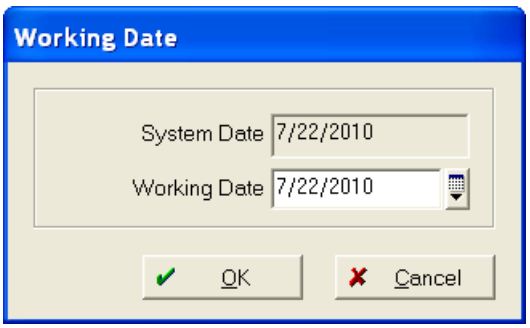


Changing the working date / system date

If you want to enter data or print reports for a particular date, you can change the working date.

1. Click the date in the top right-hand corner of the screen.

2. Enter or select the *Working Date* that you want to use for data entry or for generating a report and then click **OK**.

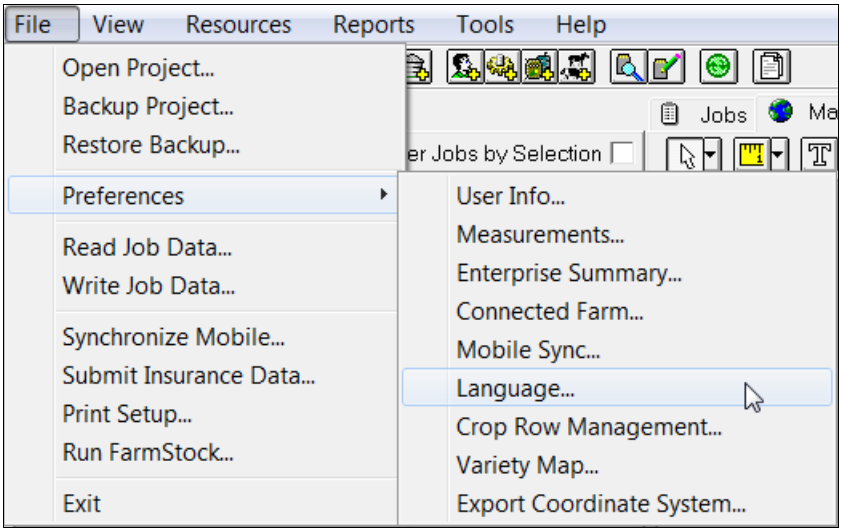


3. Once you finish entering data/printing reports, repeat Step 1 through Step 2 to change the *Working Date* back to the *System Date*.

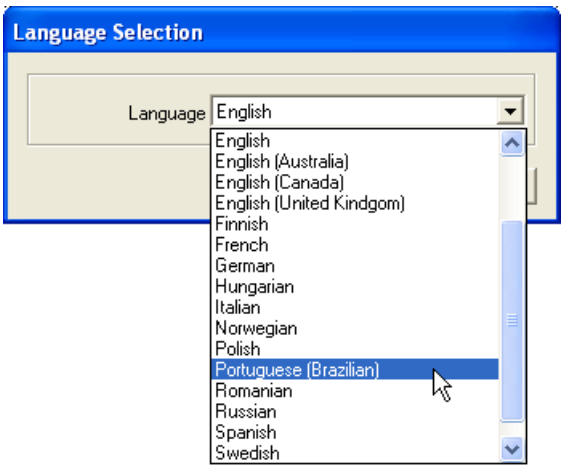
Changing languages

The language feature allows you to change the language that you selected during the original installation, without requiring you to reinstall the software.

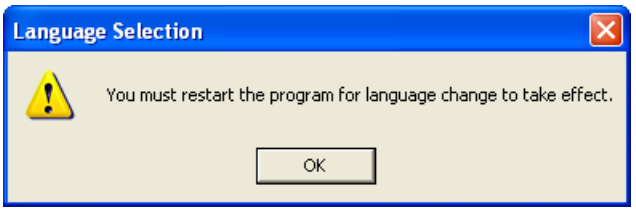
1. Select *File / Preferences / Language*.



2. Select the required language from the drop-down list and then click **OK**.



3. The software prompts you to restart the software. Once you have done this, the language change appears.

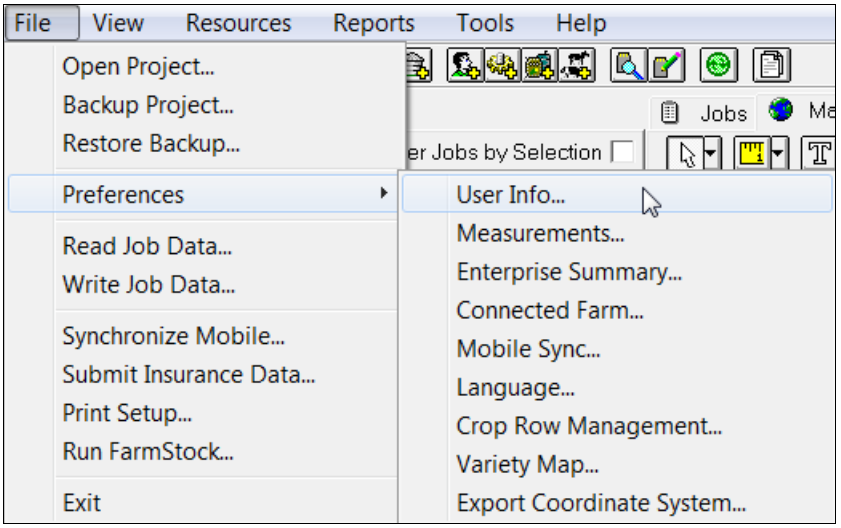


Interface overview

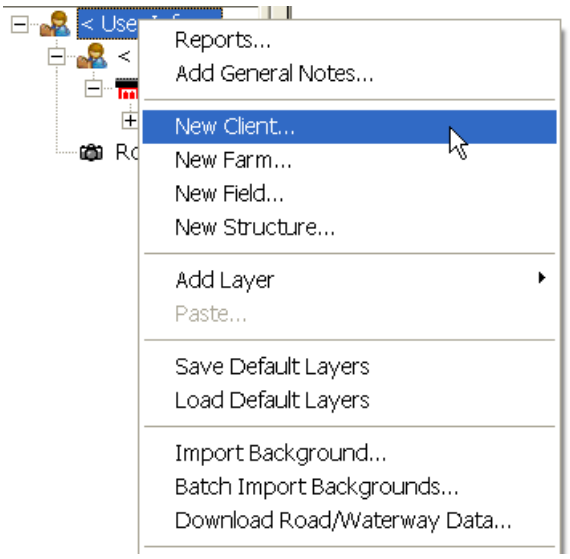
This section describes the elements of the software.

Menus, submenus, and contextual menus

- You can select items from a menu. Where these items show an arrow next to them, there is a submenu. In the manual, this is described as “Select *File / Preferences / User Info”*.



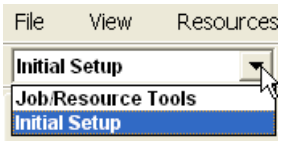
- Hover over an item and then click the right mouse button to show a contextual menu. In the manual, this is described as “right-click *<User Info>* and then select *New Client*”.



Note – *Most, but not all, of the items contained in the menus and submenus have corresponding toolbar icons (buttons). If you cannot find an icon to perform the command you want, look for the command on the appropriate menu.*

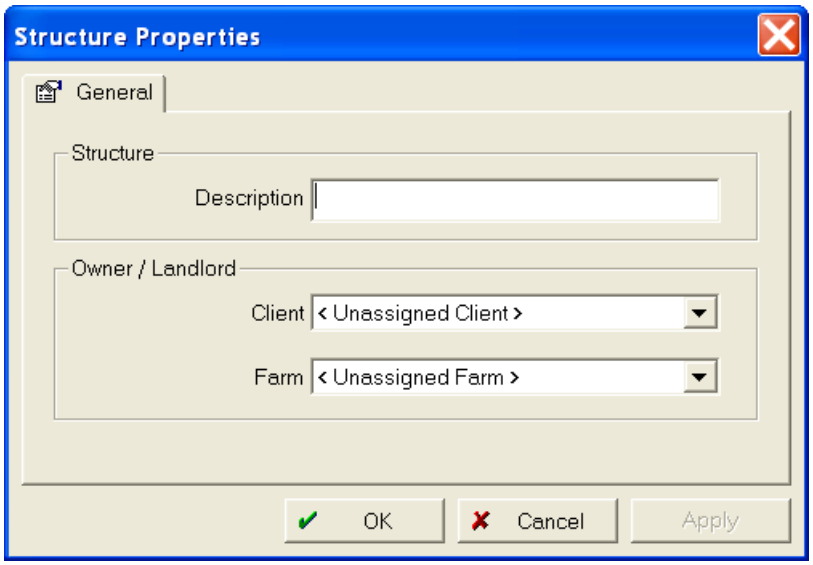
Toolbars

You can select a toolbar from the drop-down list. This list shows all toolbars that are available for the current software.



To view icon information, hover the mouse pointer over the icon.

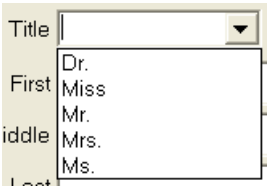
Click any icon on the toolbar to open the dialog—in this example, click the Structure icon to open the *Structure Properties* dialog where you can create a new structure.



Dialogs

Dialogs appear when you need to perform an action. Dialogs contain elements you may use to add, edit, delete, view, and print information—for example, buttons, options, check boxes, lists, and fields.

- ***Drop-down lists:*** You can select an item from drop-down lists. To show the available items in a list, click the arrow. Click an item to select it.



  If the list allows you to select more than one item, press Ctrl on the keyboard to select additional items.

  <Add/Edit>: If this appears in a list, you can select it to add a new item to the list, or change the name of an item that appears in the list.

  <New>: If this appears in a list, you can select it and then enter a new item in an adjacent box.

  <All>: If this appears in a list, it selects all items in an adjacent list.

- ***Dialog fields***: You can enter information directly into a dialog field by clicking in the field. This includes *Notes* or *Description* fields, where you can enter a description or reminder.

Note – *If a field appears greyed-out, it is not available. This means that you cannot enter or modify information in these shaded boxes.*

  Some fields allow you to enter information directly, or pick it from a list or calendar.

- ***Radio buttons and check boxes***: You can click to select only one option from a list of radio buttons. However, you can select more than one check box. Check boxes are generally used to enable one or more options. If you select a radio button, it is marked with a black dot; if you select a check box, a check mark appears in the box. To clear a radio button or check box, click it again.
- ***Buttons:*** When you click a button (either a toolbar icon or a command button) this performs an immediate action, such as enabling an option or opening a dialog. For example, if you click **OK**, it usually closes the dialog.

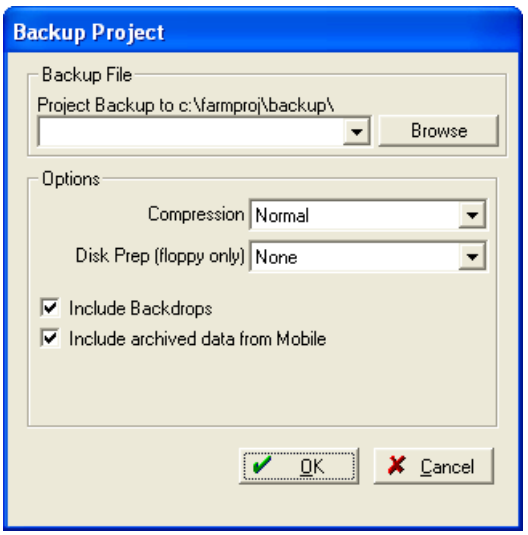
Common buttons are used as follows:

Button	Action
OK	Save information and close a dialog.
Cancel	Close a dialog without saving the information.
Record	Save information and clear the dialog so that you can enter new data.
Done	• If you did not enter information, the dialog closes. • If you did enter information, you are prompted to save it before the dialog closes.

Backing up projects

To safeguard your data, it is recommended that you make regular and frequent backups of your project to a medium other than your hard drive (USB, CD, hard disk, and so on) in case of failure, loss, or damage. This enables you to restore the backup of your project and recover lost data. Without a project backup, there is no way to recover the records and maps for your farm.

1. Select *File / Backup Project*.



2. Enter a name for the backup in the *Backup To* field, or replace an earlier backup by selecting it from the drop-down list.

   By default, the software saves project backups in the backup folder on the computer hard drive (c:\farmproj\backup). To save the backup to a different folder or to a removable drive:

   a. In the *Backup Project* dialog, click **Browse**.

   b. In the *Save As* dialog, do one of the following:

   - Select the required folder or removable drive from the *Save In* list.
   - Select an icon in the left column of the dialog and then browse to the folder or drive where you want to save the backup (for example, to save the backup to a USB drive, select the My Computer icon , select the letter for the removable drive to enter it in the *Save In* field).

   c. Enter a name for the backup file in the *File Name* field, or replace an earlier backup by selecting it from the drop-down list.

3. Do one of the following:

   - Click **Save** to return to the *Backup Project* dialog.
   - Click **Cancel** to close the dialog without saving the backup.

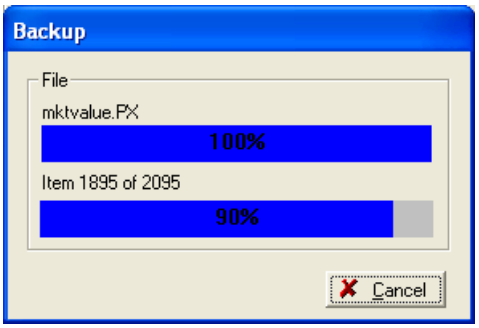
4. In the *Options* section of the *Backup Project* dialog, select a value from the *Compression* drop-down list to change the size of the backup file and the amount of time it will take to create the backup. The options are *Maximum* (slowest), *Normal* (default), *Fast*, *Super Fast*, or *None*:
   - If you select *Maximum*, the software takes longer to create the backup but the file will be smaller.
   - If you select *None*, the software will takes a shorter time to create the backup, but the file will be much larger.
5. If you are saving the backup to a USB drive or a disk, you can select *Wipe Disk* from the *Disk Prep* drop-down list to erase all files on the USB drive or floppy disk before making the backup.

> ⚠ **CAUTION –** Before you select Wipe Disk, verify there are no files you want to keep.

6. You can also select the checkboxes to include backdrops and /or Mobile archived data.

Note – *Backdrops include aerial images and digital photos. Mobile data is a copy of the original data from the Mobile software.*

7. Click **OK**. A progress screen appears.



   Click **Cancel** to close the dialog box without making a backup.
8. Repeat Step 1 through Step 7 to save another backup to a different folder, removable drive, or floppy disk.

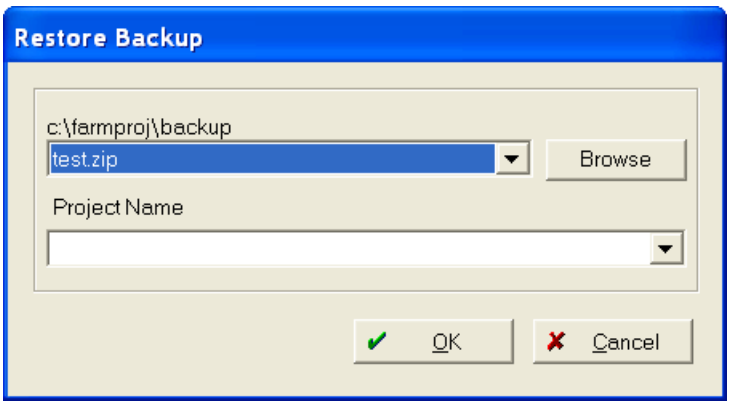
Restoring project backups

If your data is corrupted or if you lose your data through a hardware failure, you can attempt to recover it by restoring a backup you created earlier with the backup option (as described above).

Note – *The software will not restore backups made with other software, such as the Windows XP backup utility.*

Restoring a project backup replaces the information in the current project with the information that you had at the time you made the backup. For example, if you created a backup on Monday, and then needed to restore it on Friday of the same week, you will lose any information entered Tuesday through Thursday of that week.

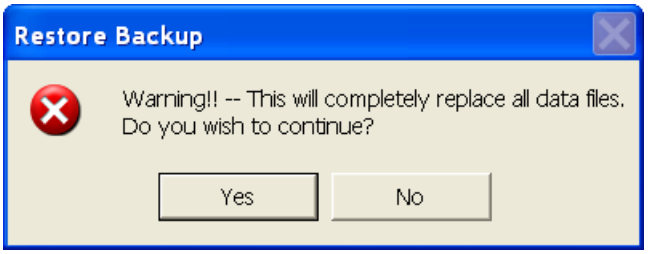
1. Do one of the following:
   - Select *File / Restore Backup*.
   - In the *Project Selection* tab, click **Restore Project**.
2. From the *Backup Project* drop-down list, select the backup file you created previously. If the backup does not appear on the list, browse to locate it:
   a. Click the **Browse** button to open a second *Restore Backup* dialog.
   b. Do one of the following:
   - Browse to the folder or drive where you previously saved the backup.
   - Select an icon in the left column and then browse to the folder or removable drive where you previously saved the backup (for example, if you saved the backup to your My Documents folder, select the *My Documents* icon to transfer it to the *Look In* field).
3. Select the backup file—it moves to the *File Name* field—and then click **Open**.
4. In the *Restore Backup* dialog, the backup file now appears in the *Restore From* field.



5. From the drop-down list, select the Project Name that you want to restore the backup to.

Note – *If you selected Restore Backup from the File menu, you cannot restore to the project that you were previously in. To restore to this project, exit the software, restart it and then click* ***Restore Project*** *in the Project Selection tab.*

6. Do one of the following:
   - Click **OK** to restore the file.
   - Click **Cancel** to close the dialog box without restoring the backup.
7. If you click **OK**, you are prompted to confirm the restore operation.



8. Click **OK**. A progress screen appears—you can click **Cancel** to close the dialog box without restoring a backup.

During the restoration of the backup, the software replaces the current data in your project with the data in the backup file. When the restoration is complete, you can begin working with the restored data.

CHAPTER 2

Setting Up Farms, Fields, and Inputs

In this chapter:

- Setting Up Farms, Fields, and Inputs
- Client / Farm / Field or Inputs tabs
- Setting up a Client
- Setting up a Farm
- Setting up a Field
- Setting up a Landlord
- Setting up a Structure
- Setting up a Person
- Setting up a Machine
- Setting up a Supply
- Setting up an Animal Group
- Setting up a Crop Enterprise
- Managing Farms, Fields, and Inputs

This section describes how to set up the elements that are used within record keeping, mapping, accounting, and water management.

For a description on how to manually enter field record jobs / tasks, see Chapter 3, Field Record Keeping.

If the Farm Works Accounting software has been installed, you also need to set up a number of financial elements. These are described in the *Farm Works Accounting Software User Guide*.

Setting Up Farms, Fields, and Inputs

Before recording farming operations, you must set up the following:

- On the *Farm* tab :
  - Clients. See page 29.
  - Farms. See page 31.
  - Fields and Landlords. See page 32.
  - Structures. See page 39.
- On the Inputs tab :
  - People. See page 40.
  - Machines. See page 42.
  - Supplies. See page 45.
  - Animals. See page 52.
- Other:
  - Enterprises. See page 53.
  - Commodities. See page 56.
  - Job types. See Chapter 3, Field Record Keeping.
  - Markers. See Markers, page 227.
  - Attribute types. See Setting up and selecting layer attributes, page 151.

Setup options

To add farms, fields, and inputs to the software, use any of the following:

- Toolbar icons. For example, click the New Animal icon . See Job/Resource Tools, page 26.
- Menu. For example, select *Resources* / *New Client*. See Menu, page 27.
- Context-specific menus. For example, right-click a Client name and then select *New Farm*. See Shortcut menus, page 27.

Job/Resource Tools

The icons that appear on the *Job/Resource* toolbar enable you to do the following:

Icon		Function
	New Client	Add a new Client.
	New Farm	Add a new Farm.
	New Field	Add a new Field.
	New Structure	Add a new Structure, such as bins, to your farm.
	New Person	Add a new Person
	New Machine	Add a new Machine
	New Supply	Add a new Supply
	New Animal	Add a new Animal
	Read Job Data	If you are using the Farm Works Mapping software, this option is used to read data from a range of precision agricultural displays, including the Trimble FmX® integrated display, the Trimble CFX-750™ display, and the CNH Pro 700 display.
	Write Job Data	If you are using the Farm Works Mapping software, this option is used to write setup data, including Clients / Farms / Fields and Inputs to a range of precision agricultural displays, including the FmX integrated display, the CFX-750 display, and the CNH Pro 700 display.

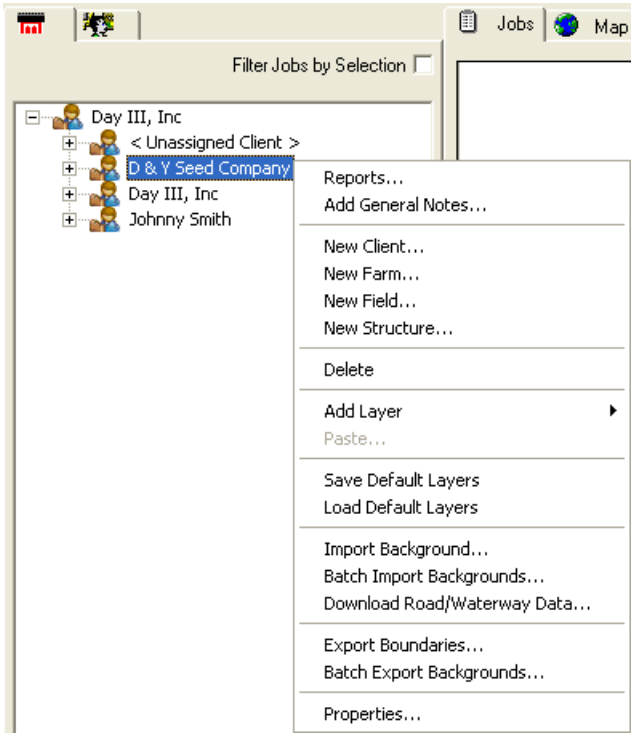
Menu

Use the menu options instead of or as well as the toolbar icons.

The menus offer selections that are not available through the toolbar icons. For example, the *Resources* menu has the same options as the toolbar, as well as *Enterprises*, *Commodities, Job Types, Markers, Attributes,* and *Landlords*. If the Farm Works Mapping software is installed, the *Resources* menu will also include *Formulas*.

Shortcut menus

Right-click to open additional shortcut menus (also referred to as “contextual menus”. This method is used when setting up Clients, Farms, Fields, Crop Enterprises, and Inputs.

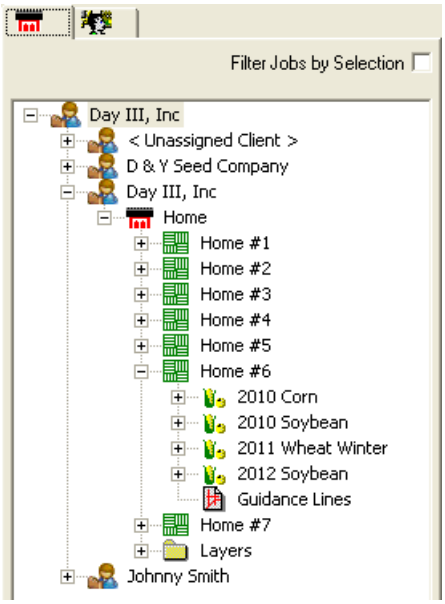


Client / Farm / Field or Inputs tabs

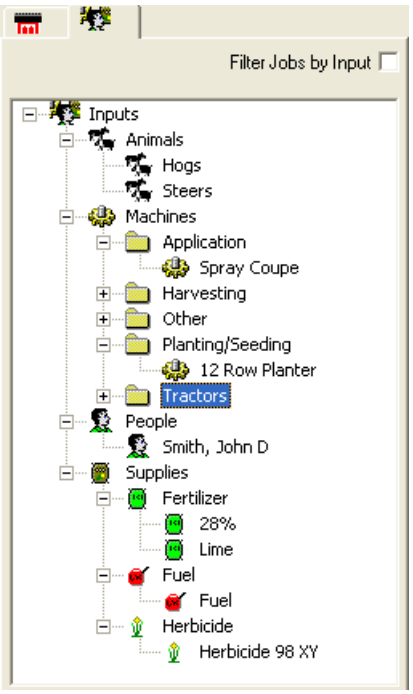
To work with the elements on the *Client / Farm / Field* or *Inputs* tab in tree view:

- Click **+** beside the appropriate icon to expand the tree.
- Click **-** to collapse the tree.
- To view and/or edit assigned properties:
  a. Right-click the element (Client, Farm, Person, Machine, Supply, and so on).
  b. Select *Properties*.
  c. View, add, or change the element properties as required.
  d. Click **OK**.

Client/Farm/Field tab



Inputs tab



Setting up a Client

Clients appear on the *Client/Farm/Field* tab with Farms, Fields, Crop enterprises, and possibly Jobs listed under each. Selecting a client name on the *Farm* tab enables you to view the Farms and Fields associated with that Client.

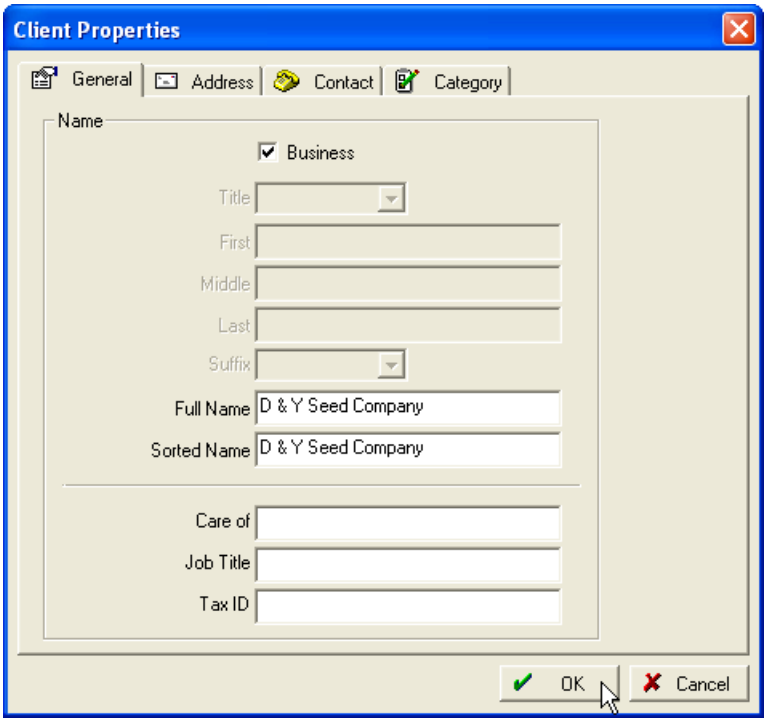
Clients are useful for custom applicators, fertilizer resellers, consultants and others who want to keep maps and records for Clients/customers.

If you are a grower, you can set up a single Client for yourself.

You cannot change or delete *Unassigned Client, Unassigned Farm, Unassigned Field*, or *Unassigned Crop*. These are a safety net to hold imported data that the software is unable to otherwise assign to a Client, Farm, and/or Field.

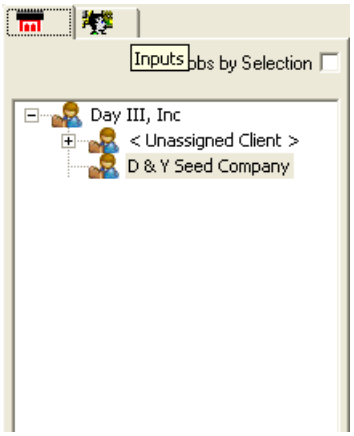
To add a Client:

1. Click the New Client icon .



2. Enter the required information in the *General*, *Address*, *Contact*, and *Category* tabs and then click **OK**.

The new Client appears on the *Farm* tab.



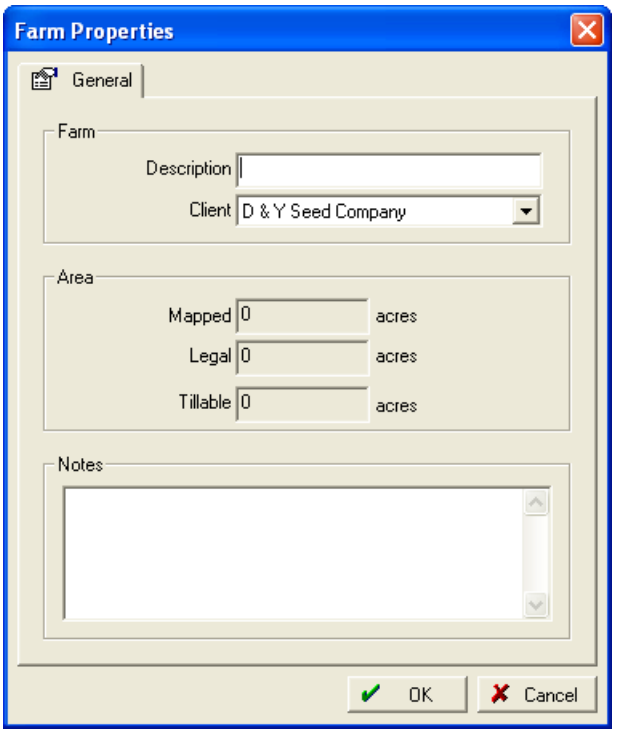
Setting up a Farm

Farms can be used to group Fields.

Multiple Farms are generally used with different Landlords, as you can organize Fields by Farm name. You must add Farms to the *Farm* tab before you can add Fields.

You can also move fields that were previously added in the software to a new Farm. See Setting up a Field, page 32.

1. Click the New Farm icon .



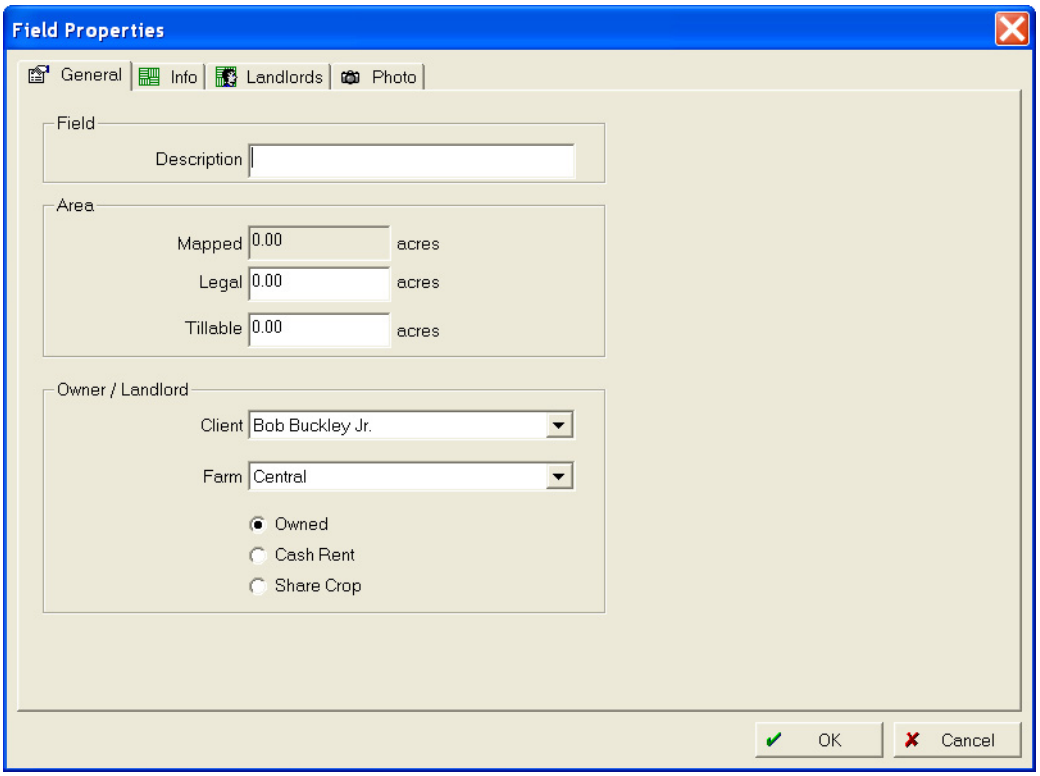
2. Enter a name for the farm in the *Description* field.
3. The *Client* field is populated automatically with the client name if you right-click the *Client Name* in the *Barn* tab and then select *New Farm*. You can select a different client from the drop-down list, or select *Add* from the list to create a new client, see Setting up a Client, page 29.

   The Area fields are not available, as the Fields assigned to the Farm will populate the acreage areas.
4. In the *Notes* field, enter any miscellaneous information for the farm (up to 255 characters).

Setting up a Field

Once you set up a Farm, you can quickly set up Fields so that you can begin recording farming operations:

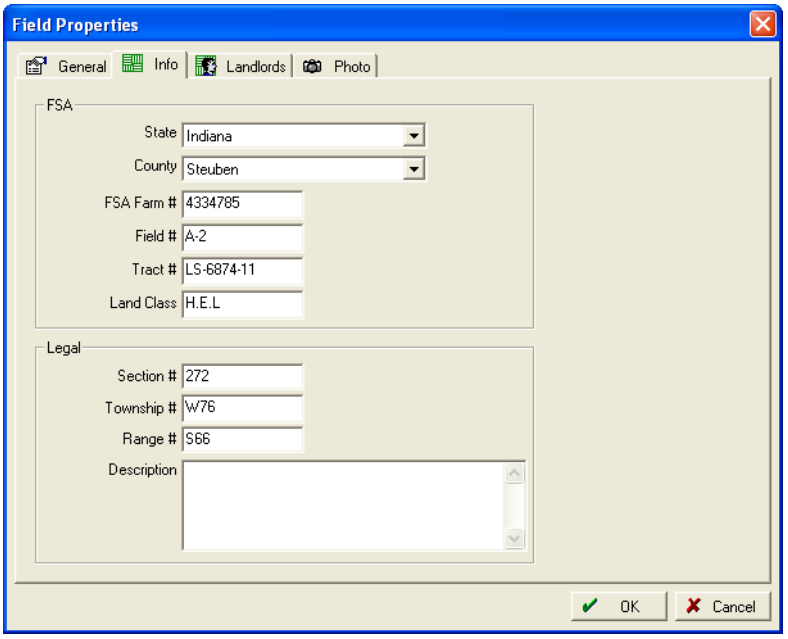
1. Click the New Field icon .



2. Enter the following into the tabs:

Tab	Group	Description
General	Description	Enter a name for the Field. This is required.
	Area	• Mapped acres are calculated automatically from mapped boundaries. • Enter the number of Legal acres. • Enter the number of Tillable acres. This is required information, which is used in field records and reports.
	Owner / Landlord	• Select the Client and Farm that the Field belongs to. If you do not know, select *<Unassigned Farm>*, or select *<Add>* to add a farm that is not in the list. • Select whether the Field is owned, cash rented, or share cropped.

Tab	Group	Description
Info		



State	Select the State where the field is located.
County	Select the County where the field is located.
FSA	Enter the correct information in the FSA Farm #, Field #, Tract #, and Land Class fields.
Legal	Enter the correct information in the Section #, Township #, and Range # fields.
Description	Enter a brief description of the field; up to 255 characters, including spaces and punctuation marks. If you are located outside the United States of America, you can enter any other required information for the field.

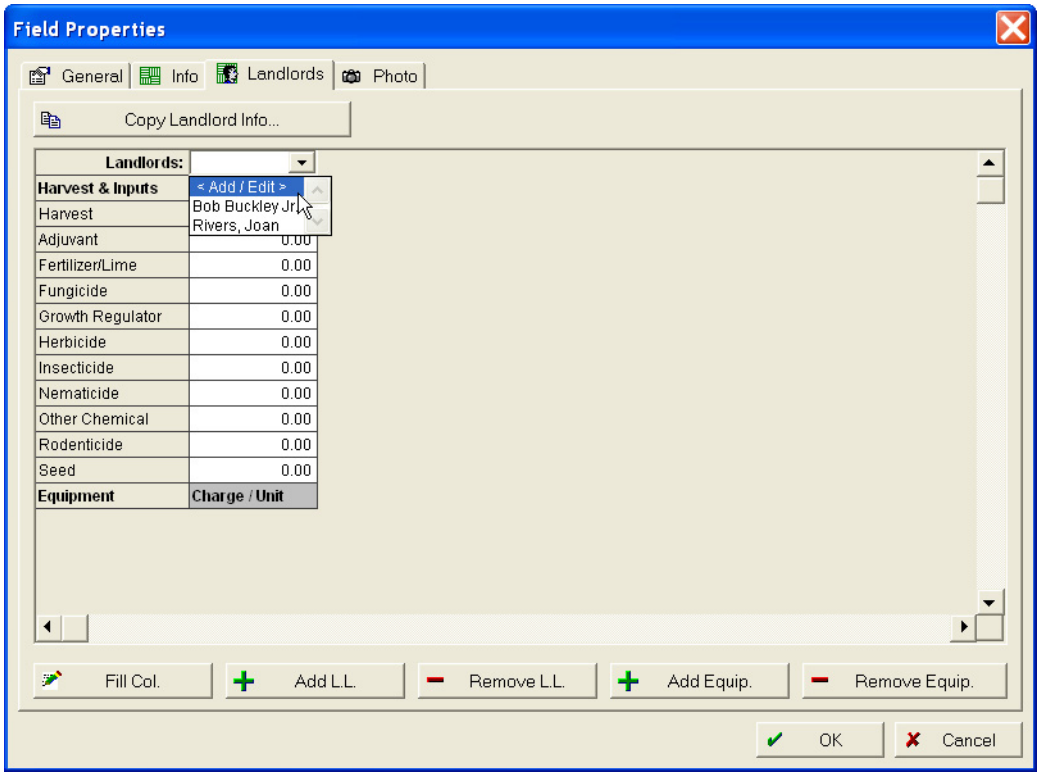
Landlords (If Share cropping)		Select the field next to Landlords and then select *Add/Edit*. See Setting up a Landlord, page 35.

Tab	Group	Description
Photo (Optional)	***Note –*** *The image file can be in bitmap (.bmp), Joint Photographic Experts Group (.jpg), Tagged Image File Format (.tif), or PC Paintbrush (.pcx) format.* *Photos added in this area are used only for reference purposes. They do not appear on maps or other areas.*	
	Change Photo	1. Click **Change Photo**. 2. Select the folder where you previously saved a digital photograph of the field, such as My Pictures. 3. Select the required file and then click **Open**. The photograph appears in the *Field Properties* dialog. 4. To choose a different photograph, click **Change Photo** again
	Print Photo	Print the selected photograph.
	Remove Photo	Remove the selected photograph from the Field Properties dialog: This does not delete the file from the computer hard drive or removable drive.

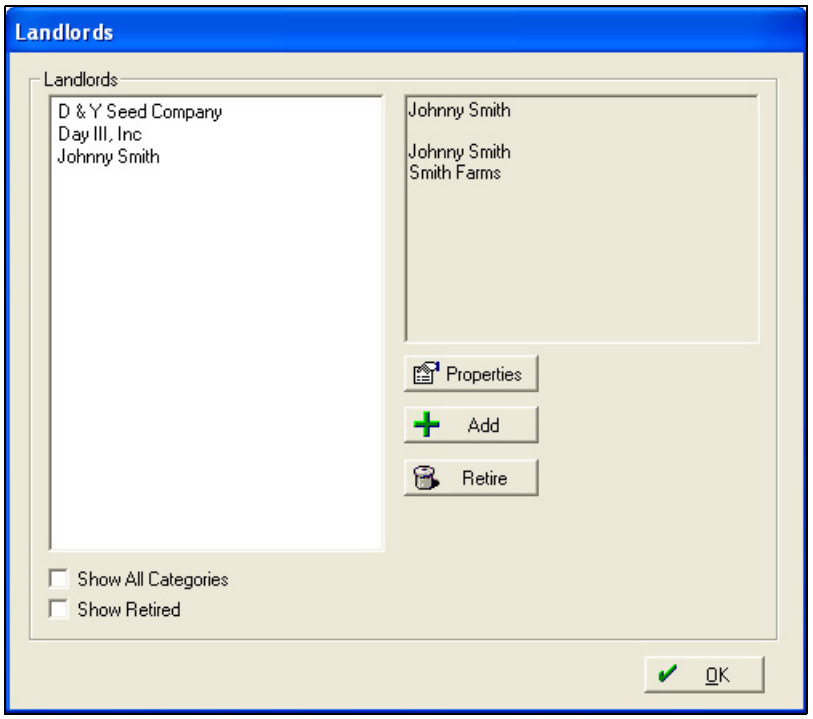
5. Once you finish entering Field information, click **OK**. The Field name appears under the selected Farm.

Setting up a Landlord

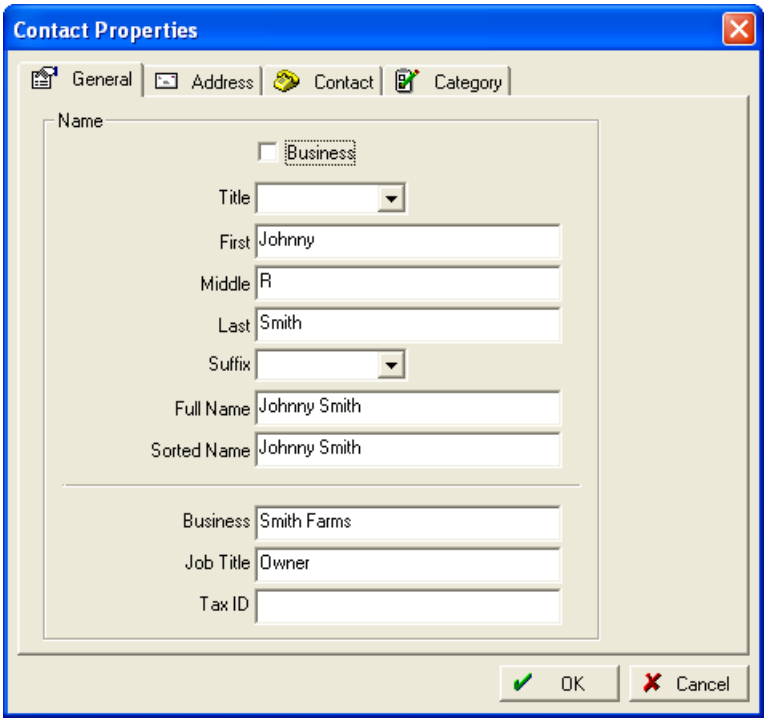
This procedure is done as part of Setting up a Field, page 32 if you select the Sharecrop option in the *General* tab. You can also access the Landlord option by selecting *Resources / Landlords*.



In the *Landlords* dialog.



1. Click **Add**. The *Contact Properties* dialog appears.

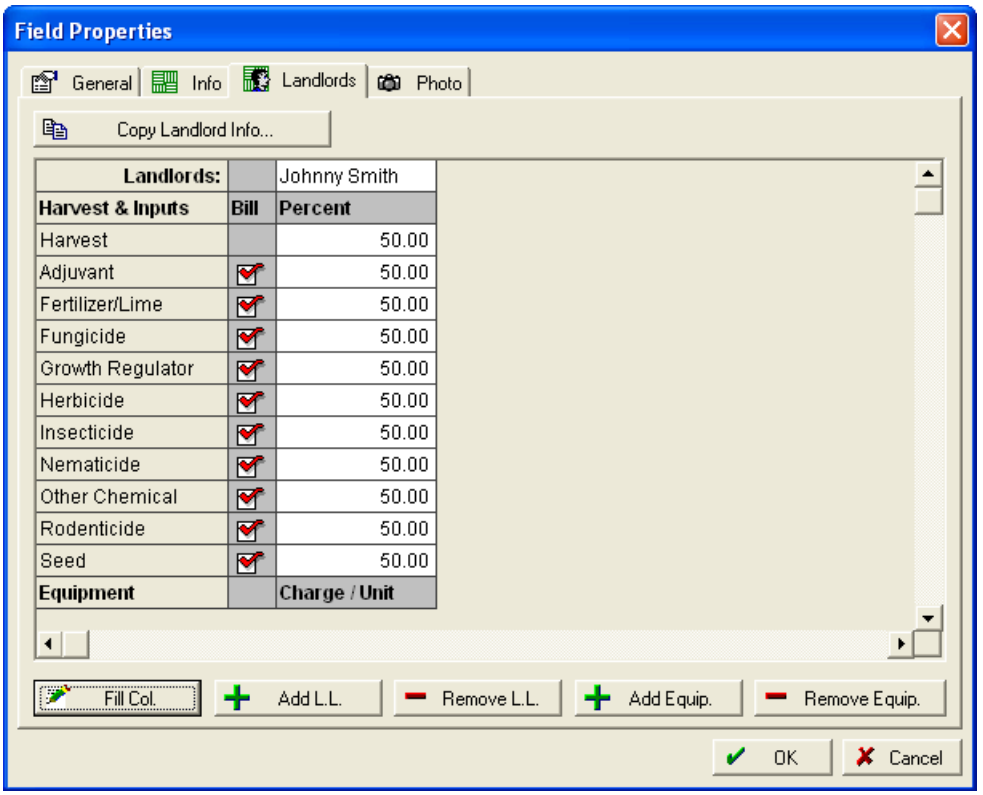


2. Select the *General* tab and then enter the Landlord's name or business name, job title, and Tax ID (business or social security number).
3. Select the *Address* tab to enter the Landlord's address information.
4. Select the *Contact* tab to enter the Landlord's telephone numbers, paper number, email address, and web address.
5. Select the *Categories* tab to select as many of the following as apply:
   Sell To
   Buy From/Pay To
   1099 Required
   Landlord (automatically selected)
   Other (for labels, general contact)
6. Click **OK** twice to return to the *Landlord* tab in the *Fields Properties* dialog.

   If there are multiple landlords for the same field, click **Add L.L.** and then repeat these steps as many time as required.

   To remove a Landlord from the Field, select the name and then click **Remove L.L.**

7. Enter the percentage of the crop that each Landlord receives, select which Inputs the Landlord gets billed for and what percentage they pay. If all items are billed at the same percentage, click **Fill Coll**.



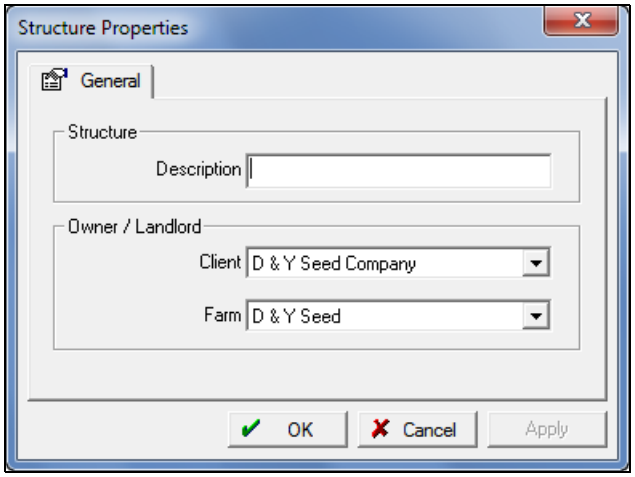
8. If the Landlord gets billed for any equipment usage, click **Add Equip**, select the equipment that they get charged for and then enter the Charge/Unit in dollars (not percentage as with the other inputs).
   To remove equipment, click **Remove Equip**.

9. If the billed items and the percentages are the same as another previously entered field, click **Copy Landlord Info** to avoid entering all of the information again. Select the Field from which to copy the Landlord information.

Setting up a Structure

If you are using the Farm Works Accounting software, you can use structures for storage locations for harvested crops.

1. Click the New Structure icon .



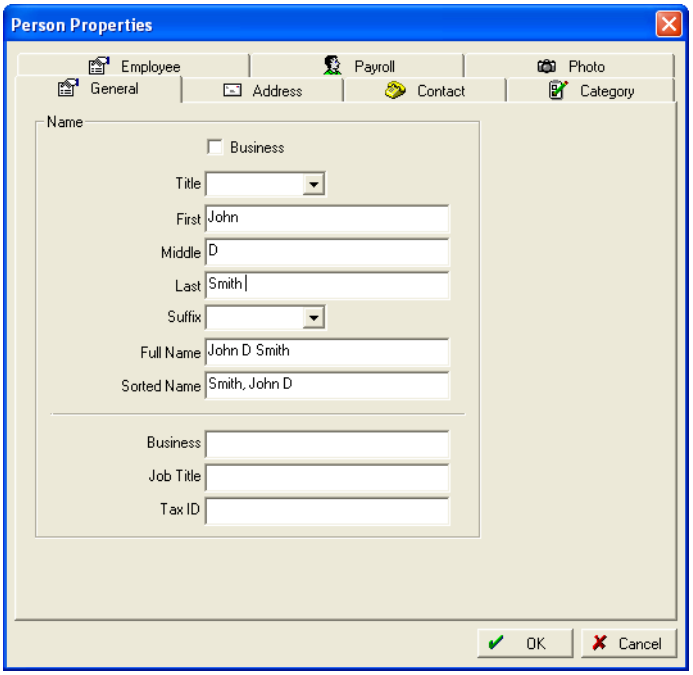
2. Enter a *Description*.
3. Do one of the following:
   - If you selected the correct *Client* and *Farm*, those fields are automatically populated. No action is required.
   - If you did not select the correct *Client* and *Farm*, select them now from the drop-down lists.
4. Click **OK**.

Setting up a Person

Use the software to track operations that a Person (employee or other worker) performs.

Before you assign your workers to a job, you must add them to the *Inputs* tab:

1. Click the New Person icon .



2. Enter information into the tabs. You must enter the person's first or last name on the *General* tab; the rest of the information is optional.

Tab	Group/Field	Action
General	Name	1. Select the *Business* check box to add a name of a business as a contact. 2. Select a title, enter their first, middle, and last name and then select the appropriate suffix. ***Note –*** *The Full Name and Sorted Name fields are automatically populated: You can change these as preferred. The sorted name is how the name appears in all of the lists within the software.* 3. Enter the name of the business for which the person works and their appropriate job title.
Address	Address	1. Enter a PO box, rural route, or street address in the Street 1 and Street 2 fields. 2. Enter a city/town, state/province, zip/postal code, and country as appropriate
Contact	Phone	Enter home, business, mobile number as appropriate.
	Internet	Enter email and/or URL details.

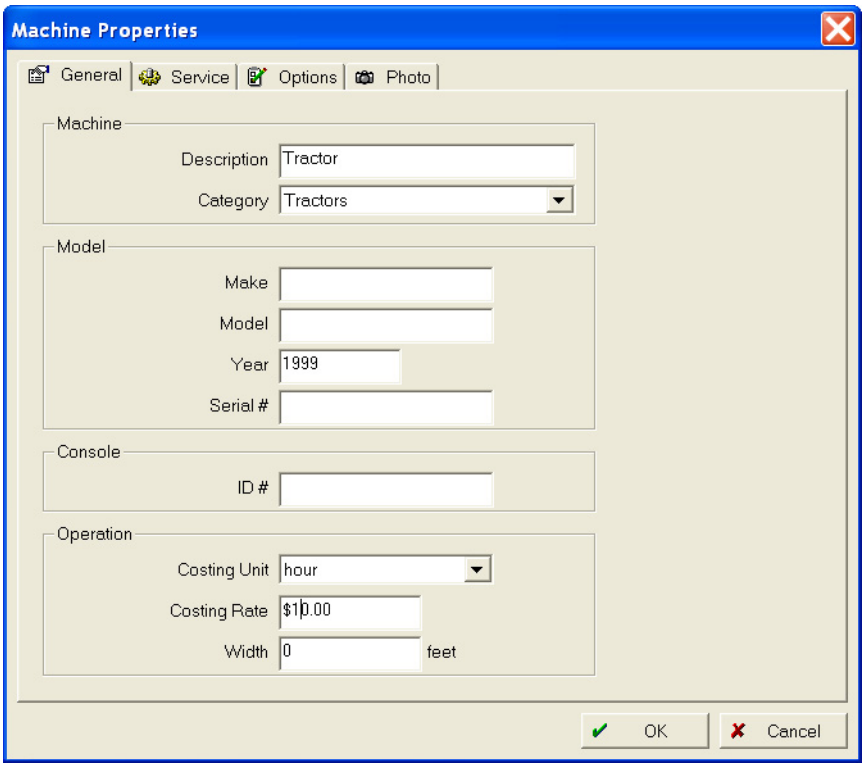
Tab	Group/Field	Action
Category	Categories	Enter information as appropriate.
Employee	Employee	If the employee has a pesticide applicator's license, enter the license number here. This number appears on the Job Report.
	Costing	Enter the charge rate in dollars per hour that the employee gets paid. This information is used for costing purposes on the Job Report.
Photo		Change, remove, rotate, or print digital images. For more information, see Photo, page 34
Invoice	***Note –*** *The Invoice tab is active if the Farm Works Accounting software is not installed.*	
	Include on Invoice	Select this check box to add information to the invoice.
	Description on Invoice	If you select Include on Invoice, enter information here to be included.
	Invoice Rate	Enter the required rate. See the note under this field.

3. Once you finish entering the information, click **OK**. The worker now appears in the *Inputs* tab under the People icon.

Setting up a Machine

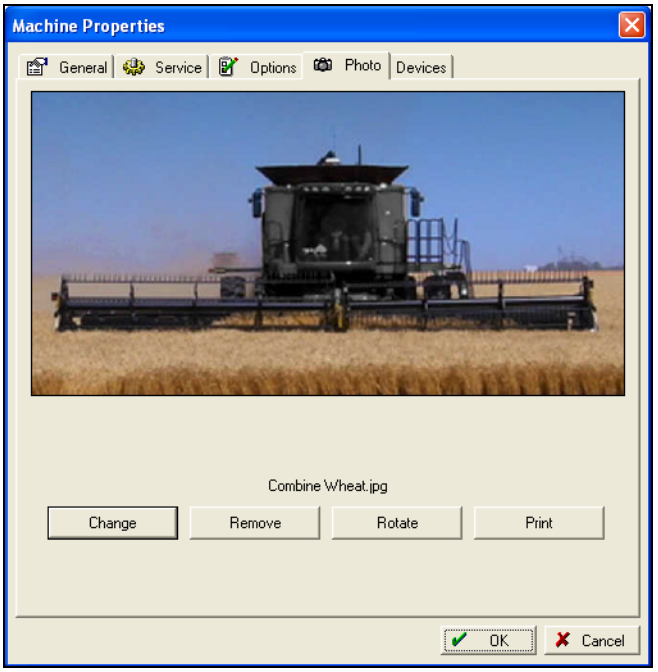
To set up a new machine:

1. Click the New Machine icon .



2. Enter information into the tabs.

Tab	Group/Field	Action
General	Machine	• Enter the Machine name. • From the Category drop-down list, select the type of machine.
	Model	Enter the make, model, year, and serial number.
	Console	Enter the Console ID# (AGCO GTA users only).
	Operation	• From the Costing Unit drop-down list, select how the machine is to be charged: this will typically be acre/hectare or hour. • Under Charge Rate, enter the rate per acre/hectare or hour. The charge rate will be used on the Enterprise statements, applied directly to the acres or hours the machine farmed, and applied on planned operation reports. If the Farm Works Accounting software is installed and you selected Profit Enterprise for the equipment, the charge rate goes directly to the Fields covered by the equipment. If you selected Passive Enterprise, the charge rate is used only for planning reports. For more information, refer to the *Farm Works Accounting Software User Guide*. • If you are using the Mobile module, enter the Machine width.
Service	Service	• From the *Service Interval Unit* drop-down list, select the required value. • In *Current Meter*, enter the current acres or hours on the machine. • In *Last Serviced*, enter the acres or hours at the time of the last service. • In *Last Service Date*, enter the date of the last service, or select the calendar icon and choose the date in the calendar. • In *Service Interval*, enter the number of acres or hours to elapse between each service. This automatically calculates and shows in *Next Service* the number of hours or acres until the next service is due.
	Service Notes	Enter any notes; up to 255 characters.
Options	Options	• Select the *Fuelable* check box if you want to track fuel usage. • Select the *Harvester* check box if you will use the machine to perform harvesting operations, for example, combines or balers. • Select the *Metered* check box if you are using the Mobile software and want to keep track of the hours and acres used for the service options.
	Fuel	• If the machine uses fuel, select the correct fuel type from the *Supply Fuel* list. If required, select <Add> to add a new fuel supply. • Enter the Default Burn Rate, and select Gal/Acre or Gal/Hr. • If the Farm Works Accounting software is installed, select *Passive* or *Profit Enterprise* under *Enterprise Type*. Refer to the *Farm Works Accounting Software User Guide*. This options is only active when the Farm Works Accounting software is installed. A section called *Enterprise Type* appears directly below the Fuel section.

Tab	Group/Field	Action
Photo (Optional)	***Note –*** *The image file can be in bitmap (.bmp), Joint Photographic Experts Group (.jpg), Tagged Image File Format (.tif), or PC Paintbrush (.pcx) format.* *Photos added in this area are used only for reference purposes. They do not appear on maps or other areas.*	
	Change Photo	1. Click **Change Photo**. 2. Select the folder where you previously saved a digital photograph of the field, such as My Pictures. 3. Select the required file and then click **Open**. The photograph appears in the *Field Properties* dialog.  4. To choose a different photograph, click **Change Photo** again.
	Print Photo	Print the selected photograph.
	Remove Photo	Remove the selected photograph from the *Field Properties* dialog: This does not delete the file from the computer hard drive or removable drive.
Invoice		• Select *Include on Invoice*. • In *Invoice Rate* enter an amount ***if different*** from the Costing Rate entered on the *General* Tab. ***Note –*** *The Invoice option is only available if the Farm Works Accounting software is* ***not*** *installed.*

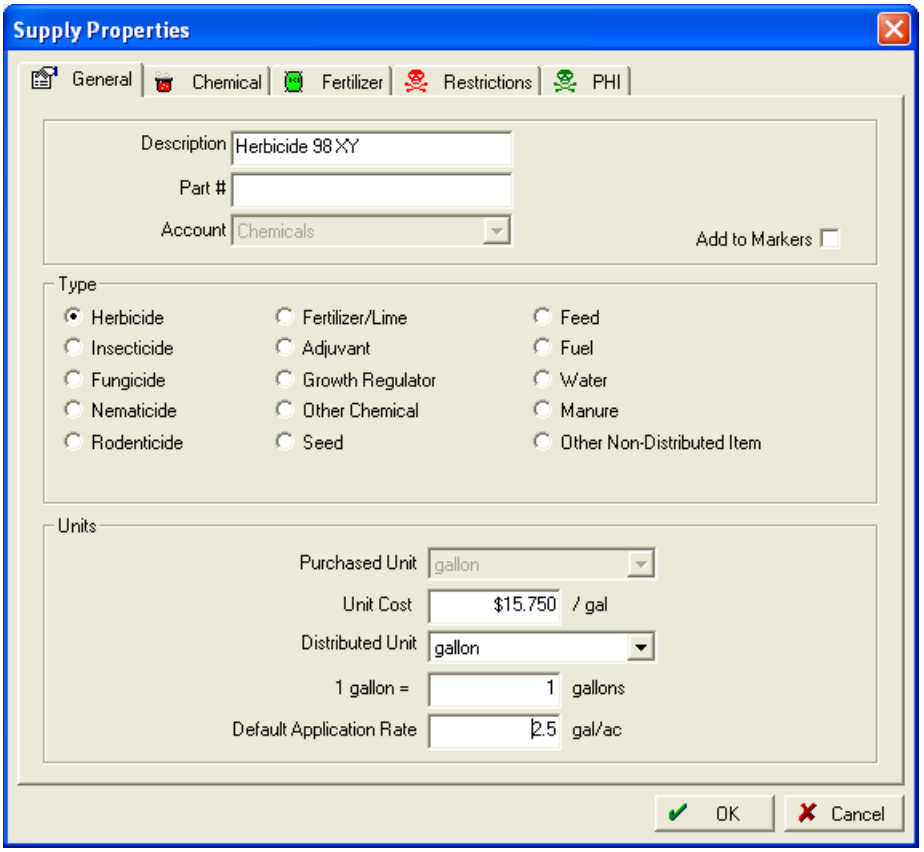
5. Once you finish entering information for the Machine, click **OK**. The machine appears in the appropriate machine category of the *Inputs* tab under the Machines icon.

Setting up a Supply

You can keep comprehensive information for all of the supplies you apply to your fields, such as seed, fertilizers, insecticides, and other chemicals.

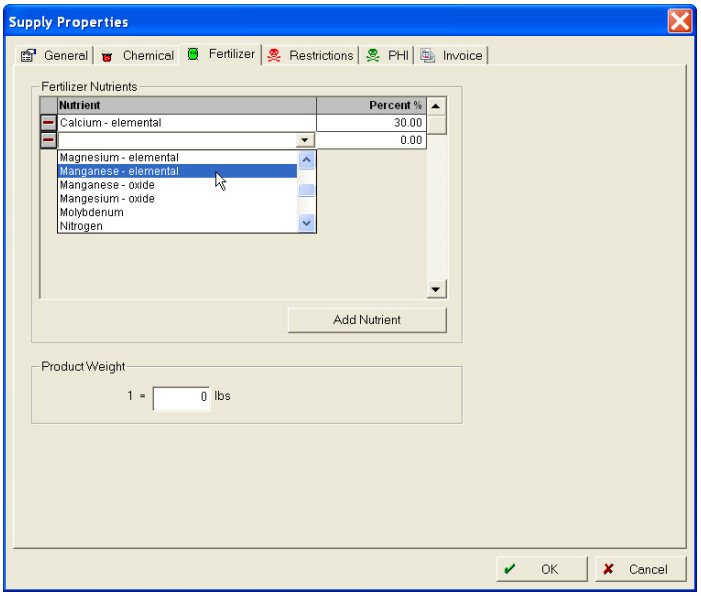
Adding a new Supply

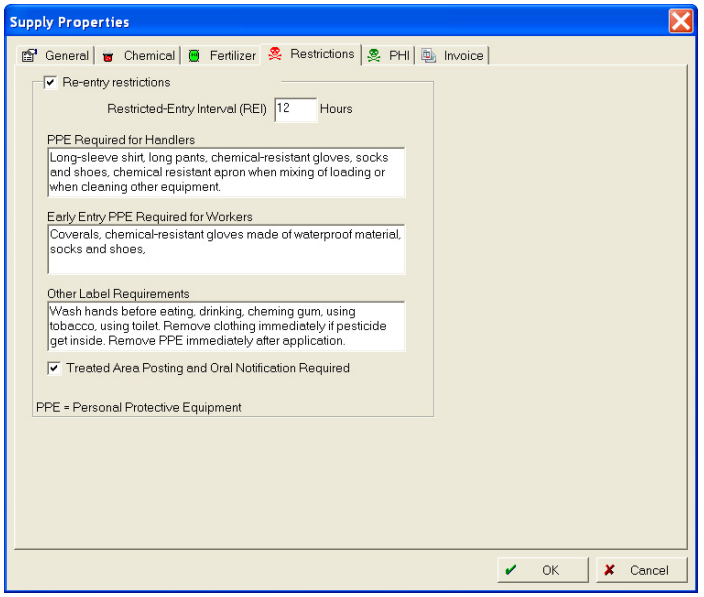
1. Click the New Supply icon .



2. Enter information into the tabs:

Tab	Group/Field	Action
General	Description	• Enter a name for the supply. • If relevant, enter the Part # number. • If the Farm Works Accounting software is installed, you must select the applicable account from the *Account* drop-down list. • Select the *Add to Markers* check box, if applicable.
	Type	Select the type of supply.
	Units	Enter the Purchased Units, Unit Cost, Distributed Unit, and the Default Application Rate. ***Note –*** *Unit cost is similar to the charge rate for a Machine and a Person. It is used on Enterprise statements if the Farm Works Accounting software is* ***not*** *installed, and on planned operation reports. If the Farm Works Accounting software is installed, you must still enter this value, as it is used on all planned operation reports.*
Chemical		• Select the *Keep Detailed Chemical Records* check box. • Enter the following information: Take it from the product label: – Chemical Name – EPA # – Manufacturer – Formulation – Mode of operation – Default carrier
	Carrier	1. Click **Add/Edit.** 2. Enter the Carrier name. 3. Select a Unit value from the list and then click **OK**.
	Default Carrier Rate	Enter a value.
	Target Problems (max. 5)	1. Click **Add/Edit Problem List**. 2. Click **Add/Edit.** 3. Click **Add** and then enter the pest name. Repeat this to add more pests. **Tip –** To include more pests in the selection of five names, use a wider term such as Broadleaves or Grasses. 4. When finished, click **OK**. 5. From the *Pests* list, select up to five pests to move to the *Selected Pests* list. To select multiple items, press and hold Ctrl as you click the names. 6. To add the names, click **>>--->**. 7. To remove a pest from the Selected Pests list, select the name and then click **<---<<**. To remove all pests, click **<<---<<**. 8. To add a new pest, repeat from Step 2.

Tab	Group/Field	Action
Fertilizer	Fertilizer Nutrients	1. Click the blank field in the Nutrient column. 2. From the drop-down list, select the first nutrient, and the percentage of the analysis that nutrient makes up in the Percent % column.  3. To add more nutrients, click **Add Nutrient**, select the name from the list and then enter the percentage. Repeat this step as required. 4. If the nutrient you want is not in the list, select *Add/Edit* from the list and then click **Add** in the dialog that appears. Enter a nutrient name and abbreviation and then click **OK**. 5. To remove a nutrient from the list, click **-** next to its name.
	Product Weight	This conversion factor is automatically entered.

Tab	Group/Field	Action
Restrictions	Re-entry restrictions	Enter restrictions as they appear on the product label. 1. Select the *Re-entry Restrictions* check box and then enter the required number of hours in *Restricted-Entry Interval (REI)*. 2. In *PPE Required for Handlers* and *Early Entry PPE Required for Workers*, enter the required protective equipment for those handling the supply. 3. In *Other Label Requirements*, enter the other requirements for those handling the supply. 4. If applicable, select *Treat Area Posting and Oral Notification Required*. For example. 
PHI	Pre-Harvest Interval	If this applies to the chemical: 1. From the *Crop* drop-down list, select the crop name or select *<Add/Edit>* to add the crop. 2. Enter a value in the *Pre-Harvest Interval (Days)* column. 3. If there are restrictions for more than one crop, click **Add Crop** and then repeat steps 1 and 2.
Invoice		1. Select *Include on Invoice*. 2. Enter a description. 3. Enter the Invoice Rate ***only if it differs*** from the Unit Cost you entered on the *General* tab. ***Note –*** *The invoice option is available only if the Farm Works Accounting software is* ***not*** *installed.*

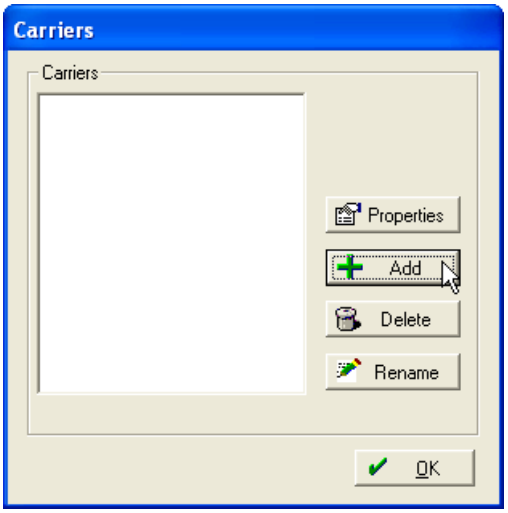
Adding a new Tank Mix

1. On the *Inputs* tab, right-click *Supplies Category* and then select *New Tank Mix*.

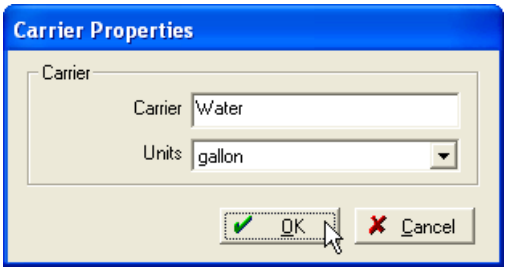
2. In the *Tank Mix Properties* dialog, enter in a *Description* for the tank mix.
3. Select the correct *Carrier* from the drop-down list or select *Add/Edit* to create a new carrier.

   To add a Carrier:

   a. In the *Carriers* dialog click **Add.**

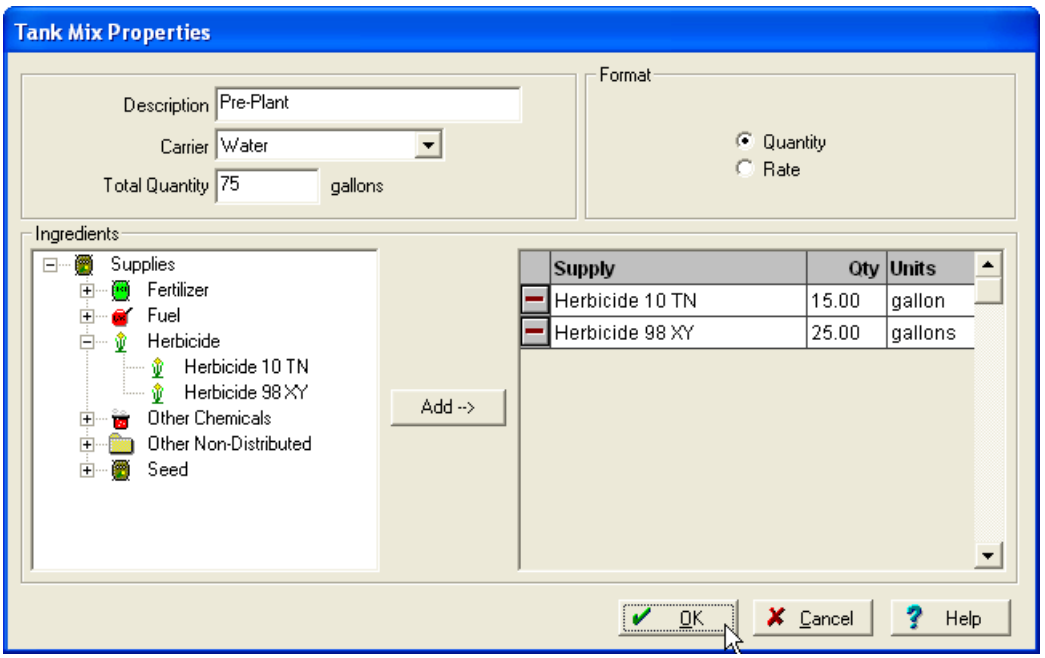


   b. In the *Carrier Properties* dialog, enter the Carrier name, select a *Unit* value from the list and then click **OK**.



   c. In the Carriers dialog, click **OK**.

4. In the *Tank Mix Properties* dialog, in the *Format* section, select *Quantity* or *Rate* and then enter the *Total Quantity*.



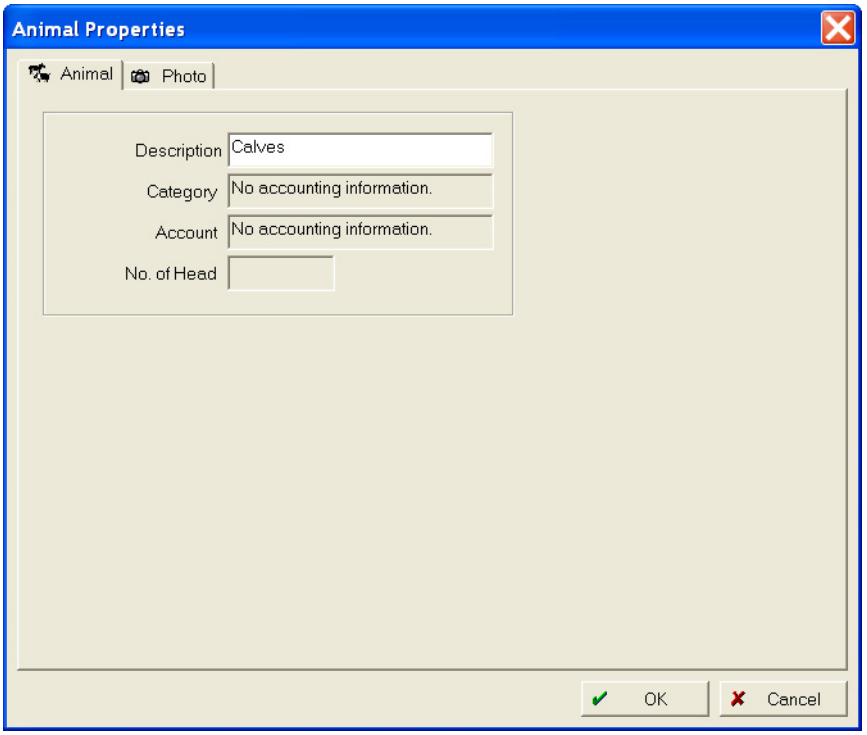
5. In the *Ingredients* section, click the plus sign next to the correct supply category, and then select the supply.
6. Click **Add** to add the supply to the *Tank Mix*. Add other supplies as required to complete the tank mix.
7. Enter a *Quantity* for each supply and then click **OK**.

8. The *Inputs* tab now shows a *Tank Mix Category*. To use the *Tank Mix* in a job add it to the *Working Group* and *Apply to* fields.

Note – *When you enter a Farming Job, you will enter the rate or total amount of the tank mix used. However, all your field records will show the individual ingredients used.*

Setting up an Animal Group

1. On the Inputs tab, click **+** to expand the tree view, right-click the animal's icon and then select *New Animal*.



2. In the *Animal* tab of the *Animal Properties* dialog enter a *Description*.
3. In the *Photo* tab, insert a photo, if required.
4. Click **OK**.

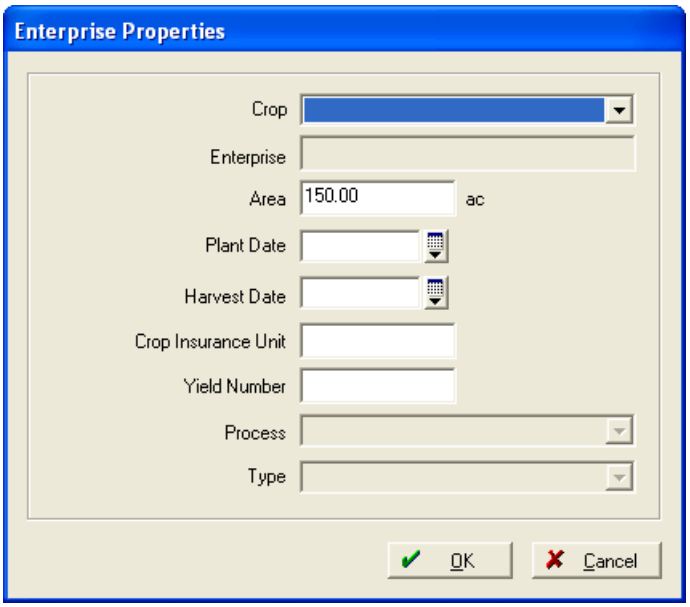
The animal appears on the *Inputs* tab under the Animal icon.

Setting up a Crop Enterprise

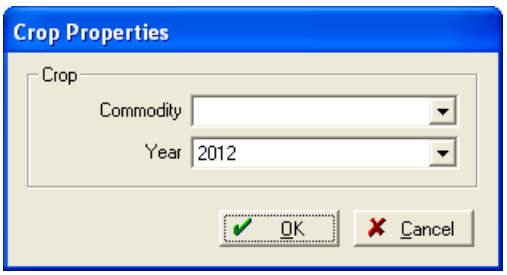
You can set up multiple Crop Enterprises under one Field. For example, if you have a 100 acre field and you plan to plant corn on 75 acres and soybeans on 25 acres, you can add 2 Crop Enterprises to the Field and assign the correct acreage for each crop. If you subsequently plant 100 acres in corn and then 50 acres each of corn and soybeans, the software accommodates each scenario and maintains Field histories.

You can use Crop Enterprises to analyze a certain crop in a given year or over several years: There is a new Enterprise for each year within a given crop. To compare records and profitability of one crop to another, and one year to another, they must have separate Enterprises. For example, if you grow several types of one crop (soybeans and low linolenic soybeans), and you want to compare the two, they must all have separate Enterprises.

1. On the *Farm* tab, click **+** beside the appropriate Client or Farm to expand the tree view, right-click the Field to which the enterprise is to be added and then select *New Crop Enterprise*.



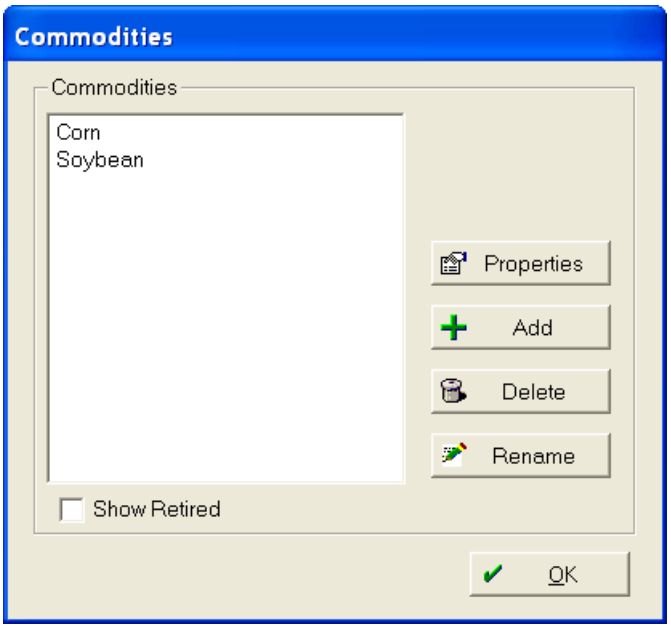
2. From the *Crop* drop-down list of the *Enterprise Properties* dialog, select *<Add>*.



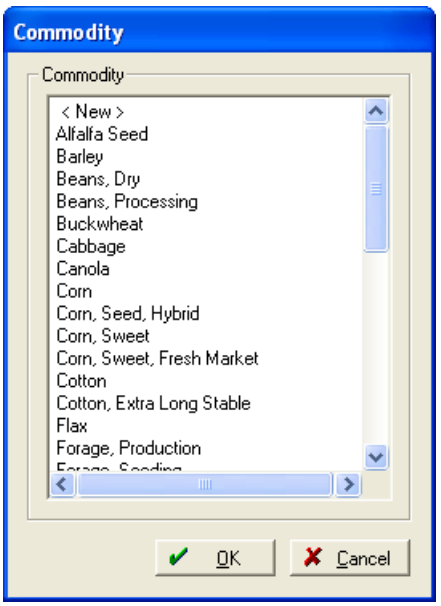
The Year defaults to the current year. You can select a different year from the drop-down list.

If the Farm Works Accounting software is installed, you must also select an account. The account is used to keep track of costs associated with the crop, harvest, and other costs.

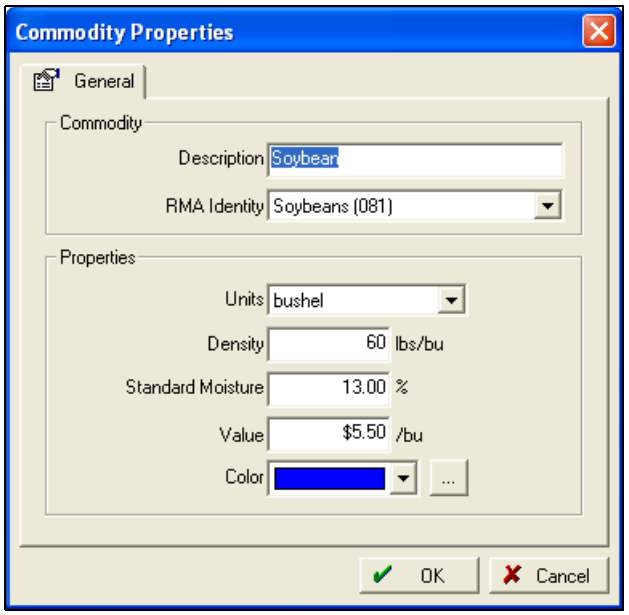
3. From the *Commodity* drop-down list of the *Crop Properties* dialog, select <*Add/Edit*>.



4. Click **Add** and then select a Commodity from the list or select <*New*> to add your own.



5. Click **OK**.



In the *Commodity Properties* dialog, some items selected from the list automatically populate the fields, with the exception of the color. If the Farm Works Mapping software is installed, select a color to appear on the Enterprise map view.

- *RMA identity* is used to collect crop insurance information if you are located in the United States of America.
- *Units* are the harvested units of the commodity.
- *Density* and *Moisture* are used to calculate dry quantities when harvesting. Moisture should be the moisture that dry weight is calculated from: Obtain this information from your local elevator or wherever you deliver your grain.
- The units, density, and moisture information is used for yield mapping and detailed harvest records (including scale tickets).
- The value of the commodity is used on reports.
- The color appears on the map where that commodity is being grown.

6. Click **OK** to save the entry and exit the *Commodity Properties* dialog.
7. Click **OK** to save and exit the *Commodities* dialog.
8. In the *Area* field of the *Enterprise Properties* dialog, enter the number of acres to be planted with the selected commodity. *Area* defaults to the total Field acreage so you do not need to change the area if the entire field is to be planted with one crop.
9. You can enter a *Plant Date*, but this is optional. If you do not enter a plant date, the date is entered automatically when a planting farming operation is recorded.
10. If required, enter a *Crop Insurance Unit* and *Yield Number*.

11. Select a *Process* and *Type* from the drop-down list. You can use this information to collect crop insurance information if you are located in the United States of America.
12. Click **OK**.
13. For all other Commodities to be planted in the field for the crop year, repeat Step 1 through Step 12.

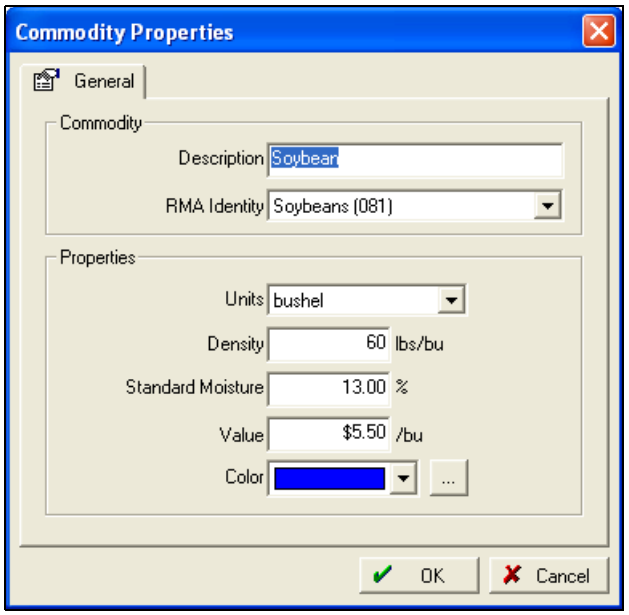
Editing a Commodity

Commodities that are used in the software have properties tied to them that can be edited. You can choose from a list of pre-entered commodities. Commodities must be added to appear in lists as active. To edit commodity properties:

1. Select *Resources* / *Commodities*. Commodities currently being used appear in the *Commodities* dialog.

2. To add a commodity, click **Add** and then select the new commodity from the list or select <*New*> to add your own.
3. To delete a Commodity, select it and then click **Delete**.

4. To edit commodities information, select the commodity and then click **Properties**.



5. Enter or change information as required:
   - Units are the harvested units of the commodity.
   - Density and moisture are used to calculate dry quantities when harvesting. Moisture should be the moisture that dry weight is calculated from: Obtain this information from your local elevator or wherever you deliver your grain.
   - The units, density, and moisture information is used for yield mapping and detailed harvest records (including scale tickets).
   - The value of the commodity is used on reports.
   - The color appears on the map where that commodity is being grown.

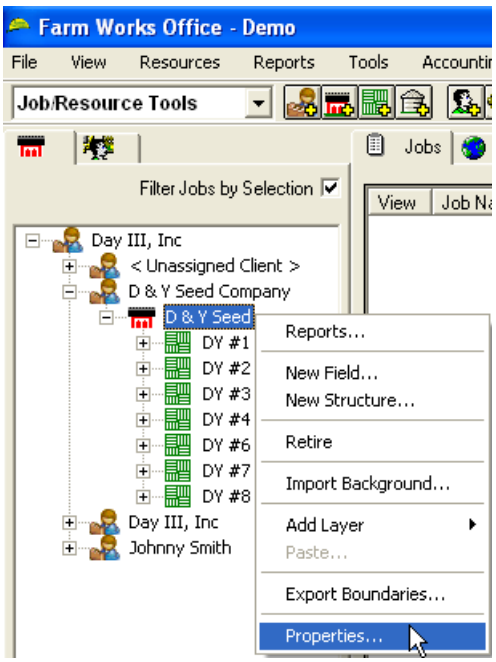
Managing Farms, Fields, and Inputs

Note – *You cannot delete a Client, Farm, Field, Person, Equipment, Animal, or Supply if it has been used in a Farming operation or if it was purchased using the Farm Works Accounting software.*

This section describes how to view or modify information about an element (Client, Farm, Machine, and so on), and how to delete or retire a farm, field, or input. Select the appropriate tab (*Farm* or *Inputs*) for the element that you want to manage.

Viewing or modifying information

1. In the *Farm* or *Inputs* tab, right-click the element name and then select *Properties*.



2. In the dialog that appears, view the information or make the necessary changes and then click **OK**.

Deleting a farm, field, or input

You can delete a farm, field, or input if you no longer need it, provided that it has not been used in a farming operation or accounting transaction.

1. In the *Farm* or *Inputs* tab, right-click the element name and then select *Delete*.
2. Click **OK** to confirm deleting the element and all associated records.

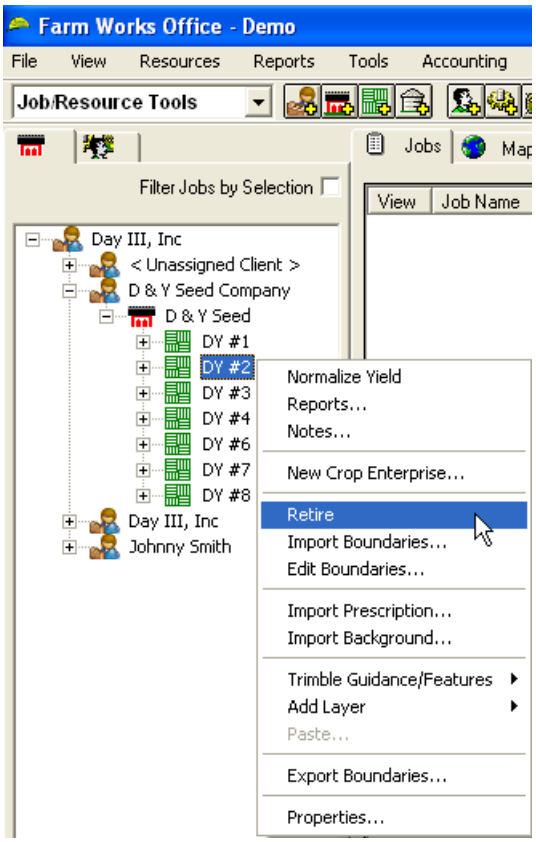
Notes:

- *If an Input was used in a job, you cannot delete it but you can retire the Input.*
- *If you delete an operation that Input was used in, or change it so that the Input is not included, you can then delete the Input.*
- *If you delete a Client, all the Farms, Fields, and any records and maps under each field will be deleted.*

Retiring a farm, field, or input

If you cannot delete a farm, field, or input, you can retire it:

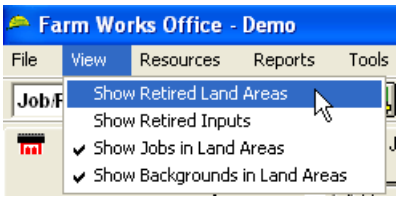
1. In the *Farm* or *Inputs* tab, right-click the farm, field, or input name and then select *Retire*.



   The retired farm, field, or input name remains in the system. The software adds an asterisk after the name and keeps the history for future reference.

2. To show a retired farm, field, or input in the *Farm* or *Inputs* tab, select *View* from the main menu and then select *Show Retired Land Areas* or *Show Retired Inputs*.

To hide a retired element, select *View* from the main menu and then click *Show Retired Land Areas* or *Show Retired Inputs* to remove the tick mark.



CHAPTER 3

Field Record Keeping

In this chapter:

- Jobs tab
- Using the View menu
- Creating a planned job
- Completing planned jobs
- Recording tillage operations (manually)
- Recording planting operations (manually)
- Recording harvesting operations (manually)
- Entering Scale Tickets
- Editing landlord/sharecrop information when completing a job
- Finding an existing job
- Editing jobs
- Removing/deleting jobs
- Exporting jobs
- Importing FODM XML files
- Merging crop enterprises
- Weather tab
- Creating invoices
- Submitting crop insurance data
- Reports

This section describes how to work with farming operations (“jobs”) and create invoices based on completed farming operations.

Jobs tab

The *Jobs* tab shows all planned and completed jobs.

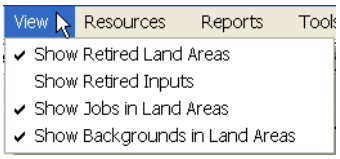
To widen or narrow a column, move your cursor over the space between the column headers until the cursor changes to one with two arrows . Hold the left mouse button down as you drag your mouse to the left or right to adjust the column width.

At the bottom of the screen there are a number of buttons:

Click ..	To ...
Clear Filter	Clear any filter settings that were applied in the *Farm*, *Input*, or *Jobs* tab.
Edit Filter	Select filter settings for the *Jobs* tab. See page 79.
Merge	Merge two or more selected jobs that are for the same field, enterprise, and job type.
Print	Print reports for a selected job. See Reports, page 109.
Complete	Complete a selected planned job. See Completing planned jobs, page 68.
Export	Export an .xml file of a job.
Delete	Delete a selected job.
Properties	View or edit job details for a selected job.

Using the View menu

In the *View* menu, you can set viewing preferences for the *Farm* and *Inputs* tabs—you can show or hide *Farm* tab items such as retired land areas, planned and completed jobs, or inputs such as machines, people, or supplies. If the Farm Works Mapping software is installed, you can use the *View* menu to show or hide background images, such as aerial photos to display with maps of your fields. Check marks beside items in the *View* menu indicate which items are shown.



The options are:

Select ...	To ...
Show Retired Land Areas	Show retired farms and fields in the *Farm tab*—they are identified with an asterisk (*). To unretire a farm or field, right-click it and then select *Un-Retire*. To hide the retired land areas, clear the check mark.
Show Retired Inputs	Show retired inputs in the *Inputs* tab—they are identified with an asterisk (*). To unretire an input and bring it back into use, right-click it and then select *Un-Retire*. To hide the retired inputs, clear the check mark.

Select ...	To ...
Show Jobs in Land Areas	Show planned and completed jobs in the *Farm* tab. The jobs appear under the applicable Farm, Field, and Crop Enterprise icons. To hide the jobs in the *Farm* tab, clear the check mark.
Show Background in Land Areas	Display background image icons on the *Farm* tab if the Farm Works Mapping software is installed. A background image icon is added to the Farm tab for each background image that has been imported into the software. To display the image, double-click the image name or icon. For more information, see Chapter 4, Mapping Software. To hide the image icons and aerial photograph names, clear the check mark.

Creating a planned job

To create planned jobs, add all the inputs (machinery, people, and supplies) you expect to use to the *Working* area.

Note – *When planning a job not all of the inputs may be known. In this case, apply only the inputs that are known; you can add others when the job is complete. See Editing jobs, page 81.*

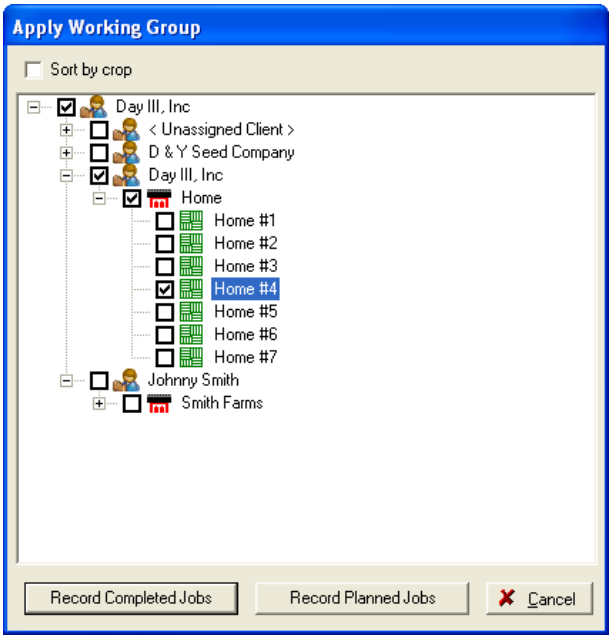
To record a planned job:

1. In the *Inputs* tab expand the tree view.
2. Double-click each input (machines, people, supplies) that will be used for the job to move it to the *Working* area. Alternatively select an input and then click the Add icon .

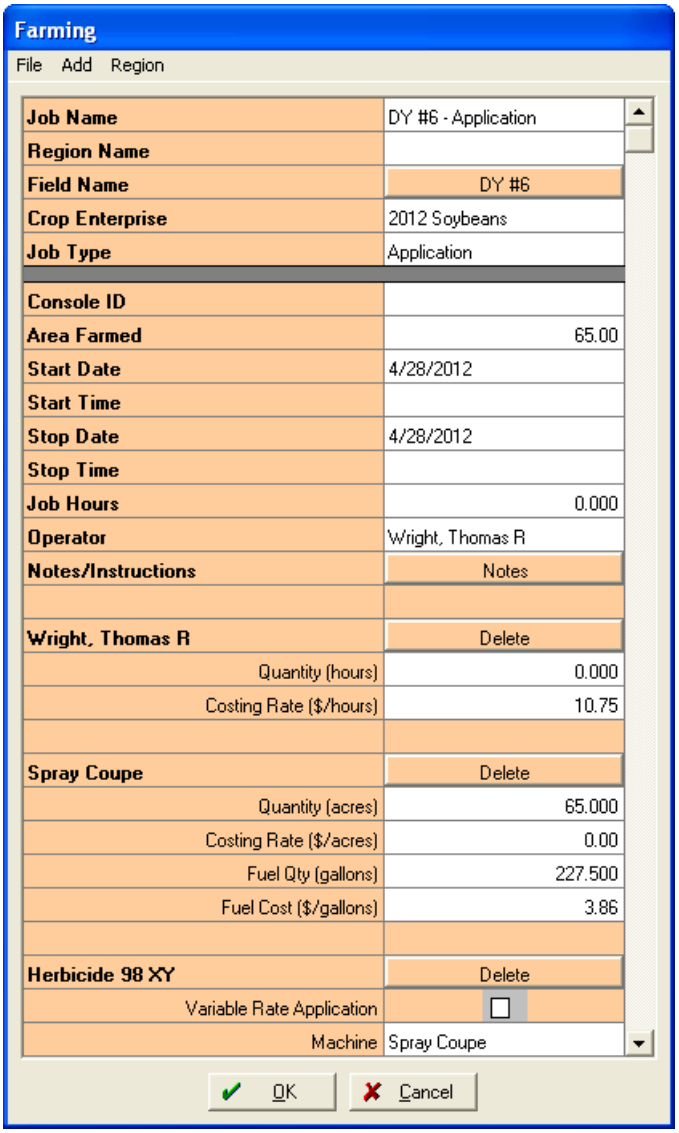
   To remove an input from the *Working* area, double-click it, or select it and then click the Remove icon .

To remove all inputs from the *Working* area, click the Remove All icon .

3. After you have all of the inputs you expect to use during the operation in the *Working Group* area, click **Apply to Fields**.



4. Click **+** to expand the tree, click the box beside the field(s) for which you are planning the job and then click **Record Planned Jobs**.



The *Farming* dialog shows the general information for the planned job (note the orange color), followed by the information for each input (in the order *People, Machines, Supplies*). You may need to scroll up and down to see all of the items listed for the operation. If more than one Field is selected, the dialog shows a separate column for each field and a *Total* column. You may enter total values—these are moved across each Field according to the proportion of the area farmed in each field.

You may also select the fields that the operation will be performed on in the *Map* tab. To select multiple fields, hold down the Shift key while selecting them. Then right-click and select **Apply Working Group to Planned.**

5. Enter the information for the planned job—to make a change to any Field, select it and overtype or select a different option from the drop-down list that appears, or click **Delete** to remove any element:
   a. The Field name and job type are listed in *Job Name*.
   b. To change the planned crop enterprise, select a different commodity and year in *Crop Enterprise* list. Select <*Add*> to add a new crop enterprise if required.
6. *Crop Enterprise* is blank if you have not previously selected a crop enterprise for the field—you can select or add a crop from the drop-down list.

Note – *It is recommended that you select a crop enterprise even if you are unsure of the crop; this can be edited at any time. If the Crop Enterprise changes throughout the year (for example, you planted beans where you planned on planting corn) you can edit this under each individual job.*

7. The *Job Type* is automatically populated according to the type of machine(s) used in the farming operation, for example if you select a machine from the *Planting/Seeding* folder, *Planting / Seeding* is listed as the *Job Type*. You can select or add a different *Job Type* from the drop-down list. Because job types are often used to search operations that take place throughout the year and can be queried for reports and editing, it is important to select the correct job.
8. Enter/change the *Area Farmed* if required.

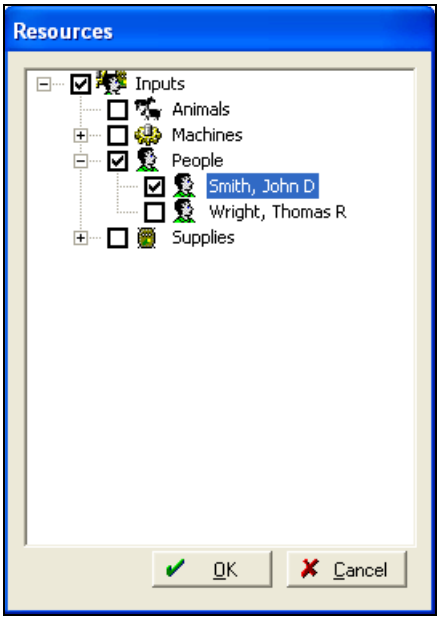
   During a planned operation, *Area Farmed* is usually not changed from the tillable acres as actual applied acres will not be known until the job is complete. They may be changed if a partial operation is planned. *Area Farmed* carries to the charge units and applied area of the inputs below.
9. The *Dates* default to the date the planned job was created. If required, you can clear the fields, enter the *Start* and *Stop Date* (actual or estimated; they can be edited later) in *m/d/yyyy* format, or click the Calendar icon .
10. Enter the information required for each of the inputs. The *Job Hours* based on these entries and the Charge Units (Hours) are both calculated automatically. If time is not known, estimate or leave these items blank.

11. You can add or delete inputs if required:

    – To add an Input:

    a. From the *Add* menu, select *Input*.

    b. Click the **+** beside the appropriate item to expand the tree, click the check box to select the input you want and then click **OK**.



    c. In the *Farming* dialog, enter the required information associated with the added input:
    If a Person is added, the *Costing Rate* defaults from the rate entered in the *Person Properties* dialog; the *Quantity (hours)* defaults from *Job Hours.* You may change these values as required.
    If a Machine is added, the *Costing Rate* and the *Quantity (acres)* default from the *Machine Properties* dialog. If the machine uses fuel, the estimated *Fuel Used* and *Fuel Cost* also appear.
    You can change these values as required.

    d. To remove any input, click **Delete** next to it.

12. If you use the Farm Works Mapping software, and a listed supply is going to be applied using *Variable Rate Application*, select the check box. This allows you to create a variable rate prescription map for the supply. See Chapter 4, Mapping Software in the *Farm Works Mapping Software User Guide*. Select the machine that will be applying the supply and, if needed, edit the *Applied Area, Planned Rate*, and *Cost*. The *Planned Rate* and *Costing Rate* were entered when the supply was set up. *Quantity Used* is calculated from the *Applied Area* and *Planned Rate*. Changing the *Quantity Used* also changes the *Planned Rate* and vice versa.

13. If applicable, select a *Chemical Carrier* and enter a *Carrier Rate* for each chemical (restricted-used supplies).

14. If a supply is an insecticide, herbicide, or other pest-control chemical, you can click **Pests Controlled** and then select the pests (up to five) controlled by that chemical.
15. Click **OK**. The planned job appears in orange colored text in the *Job* tab. If you selected more than one Field, the software adds a separate job for each Field to the *Jobs* tab.

Completing planned jobs

When a job is actually carried out, you can complete the planned job in the software and update the details to match what was done.

To complete a planned job:

1. In the *Jobs* tab, find the job you want to mark as complete. You can scroll to the job, or sort or filter the jobs. See Jobs tab, page 62.

Note – *Jobs that are complete appear in black and show a Completed icon ; Jobs in the planning stage appear in orange and show a Planned icon .*

2. Right-click the job and then select *Complete.*
3. In the *Farming* dialog (which now appears in grey), make any required changes, for example, enter any information that was not known when the job was planned and correct any information that may have changed and then click **OK**.

   The job is marked as complete, the text color changes to black and the Completed icon appears.

Once you mark a job as complete, you cannot change it back to a planned job. However, you can:

- Change the completed job as required. See Editing jobs, page 81.
- Delete a completed job and reenter it as a planned job. See Creating a planned job, page 63.

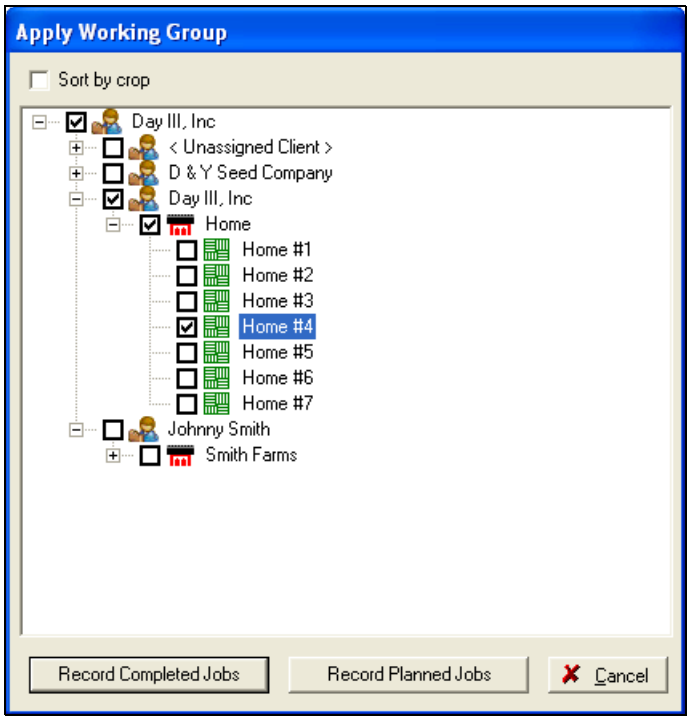
Recording tillage operations (manually)

Rather than recording planned farming operations and then marking them as complete, you can also manually record ***completed*** farming operations.

To record a tillage operation:

1. In the *Inputs* tab:
   a. ***Add Machines to the Working Group***: Click **+** beside *Machines* to expand the group and then double-click the machine(s) you want to use in the tillage operation to add them to the *Working Group*.
   b. ***Add People to the Working Group***: Click **+** beside *People* to expand the group and then double-click person(s) you want to use in the tillage operation to add them to the *Working Group*.

2. Once you add all the required machines and people to the *Working Group*, click **Apply to Fields**.



3. Click **+** to expand the tree, click the box beside the field(s) for which you are planning the job and then click **Record Completed Jobs.**

   To remove a field from the tillage operation, clear the check box.

   If a wrong Field is selected, click it and then select a different Field from the *Fields* dialog.

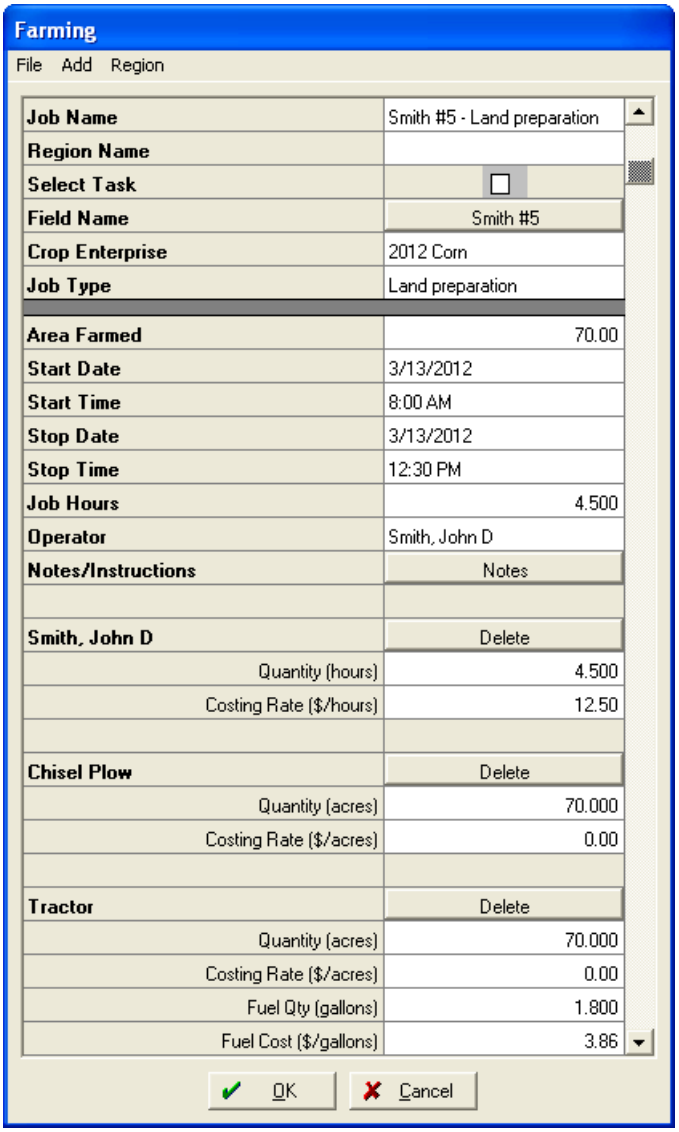
4. *Crop Enterprise* is blank if you have not previously selected a crop enterprise for the field—you can select or add a crop from the drop-down list.

Note – *It is recommended that you select a crop enterprise even if you are unsure of the crop; this can be edited at any time. If the Crop Enterprise changes throughout the year (for example, you planted beans where you planned on planting corn) you can edit this under each individual job.*

5. The *Job Type* is automatically populated according to the type of machine(s) used in the farming operation, for example if you select a machine from the *Land Preparation* folder, *Land Preparation* is listed as the *Job Type*. You can select or add a different *Job Type* from the drop-down list. Because job types are often used to search operations that take place throughout the year and can be queried for reports and editing, it is important to select the correct job.

6. *Area Farmed* defaults to the tillable acres of the selected field—if a partial operation was completed previously, it defaults to the remaining tillable acres.

Area Farmed carries to the charge units and applied area of the inputs below.



The completed operation is added to the *Jobs* tab in black text and shows the Completed icon for every field where the operation was performed.

If you do not plan to set up more jobs using current inputs, click the Remove All icon to remove the items from the *Working Group*.

Recording planting operations (manually)

To manually enter a planting job:

1. In the *Inputs* tab:
    a. ***Add Machines to the Working Group***: Click **+** beside *Machines* to expand the group, and then double-click the machine(s) you want to use in the planting operation to add them to the *Working Group*.
    b. ***Add People to the Working Group***: Click **+** beside *People* to expand the group, and then double-click the person(s) you want to use in the planting operation to add them to the *Working Group*.
    c. ***Add Supplies to the Working Group***: Click **+** beside *Supplies* to expand the group, and then double-click the supply(ies) you want to use in the planting operation to add them to the *Working Group*.
2. Once all the required machines and people are added to the *Working Group*, click **Apply to Fields**.
3. Click **+** to expand the tree, click the box beside the field(s) for which you are planning the job and then click **Record Completed Jobs**.

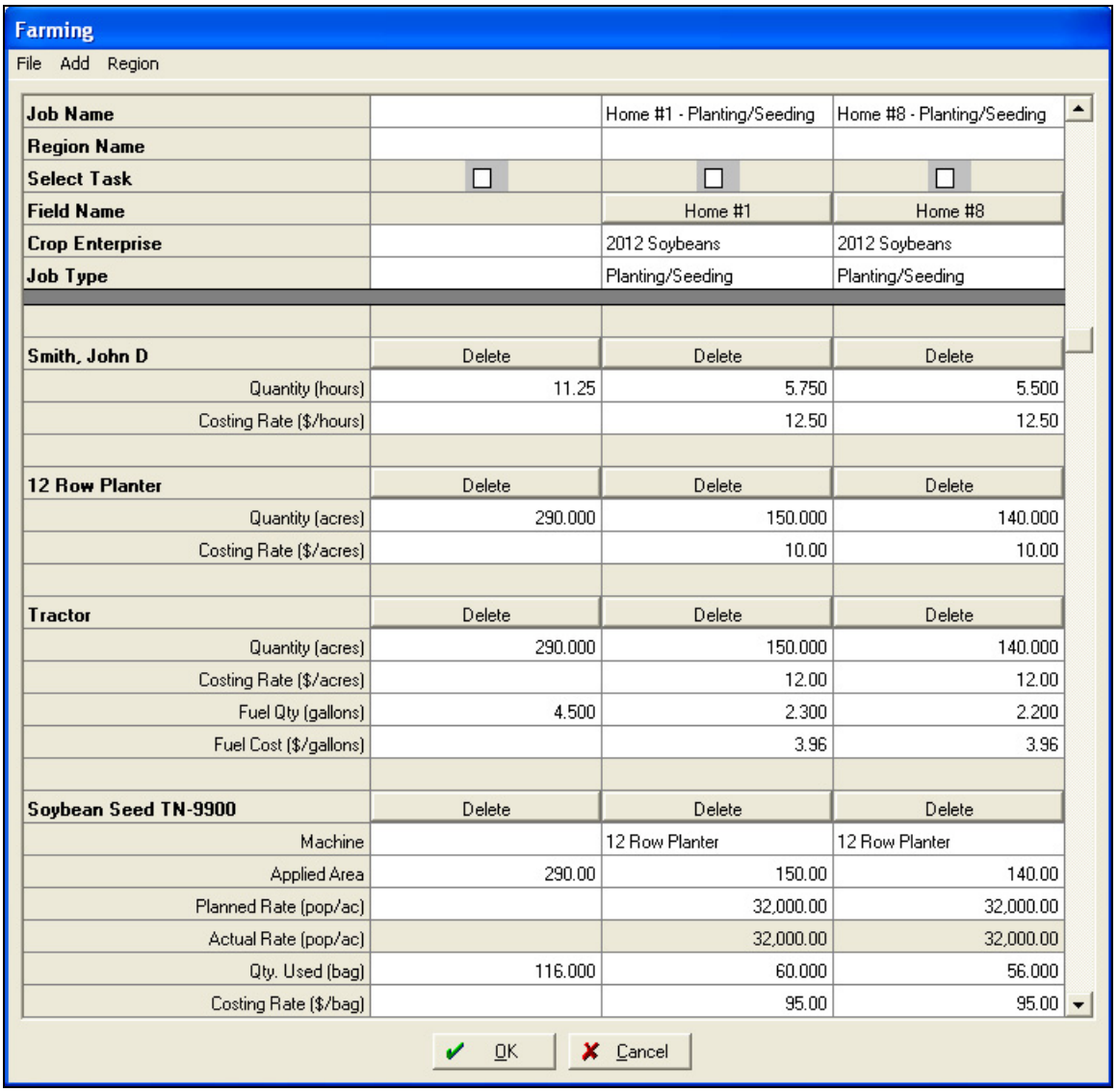
    To remove a field from the planting operation, clear the check box.

    If a wrong Field is selected, click it and then select a different field from the *Fields* dialog.
4. *Crop Enterprise* is blank if you have not previously selected a crop enterprise for the field—you can select or add a crop from the drop-down list.

Note – *It is recommended that you select a crop enterprise even if you are unsure of the crop; this can be edited at any time. If the Crop Enterprise changes throughout the year (for example, you planted beans where you planned on planting corn) you can edit this under each individual job.*

5. The *Job Type* is automatically populated according to the type of machine(s) used in the farming operation, for example if you select a machine from the *Planting/Seeding* folder, *Planting / Seeding* is listed as the *Job Type*. You can select or add a different *Job Type* from the drop-down list. Because job types are often used to search operations that take place throughout the year and can be queried for reports and editing, it is important to select the correct job.
6. *Area Farmed* defaults to the tillable acres of the selected field—if a partial operation was completed previously, it defaults to the remaining tillable acres.

Area Farmed carries to the charge units and applied area of the inputs below.



Farming

File Add Region

Job Name		Home #1 - Planting/Seeding	Home #8 - Planting/Seeding
Region Name			
Select Task	☐	☐	☐
Field Name		Home #1	Home #8
Crop Enterprise		2012 Soybeans	2012 Soybeans
Job Type		Planting/Seeding	Planting/Seeding
Smith, John D	Delete	Delete	Delete
Quantity (hours)	11.25	5.750	5.500
Costing Rate ($/hours)		12.50	12.50
12 Row Planter	Delete	Delete	Delete
Quantity (acres)	290.000	150.000	140.000
Costing Rate ($/acres)		10.00	10.00
Tractor	Delete	Delete	Delete
Quantity (acres)	290.000	150.000	140.000
Costing Rate ($/acres)		12.00	12.00
Fuel Qty (gallons)	4.500	2.300	2.200
Fuel Cost ($/gallons)		3.96	3.96
Soybean Seed TN-9900	Delete	Delete	Delete
Machine		12 Row Planter	12 Row Planter
Applied Area	290.00	150.00	140.00
Planned Rate (pop/ac)		32,000.00	32,000.00
Actual Rate (pop/ac)		32,000.00	32,000.00
Qty. Used (bag)	116.000	60.000	56.000
Costing Rate ($/bag)		95.00	95.00

OK Cancel

The completed operation is added to the *Jobs* tab in black text and shows the Completed icon for every field where the operation was performed.

If you do not plan to set up more jobs using current inputs, click the Remove All icon to remove the items from the *Working Group*.

Recording harvesting operations (manually)

To enter a harvest job:

1. In the *Inputs* tab:

    a. ***Add Machines to the Working Group***: Click **+** beside *Machines* to expand the group, and then double-click the machine(s) you want to use in the harvesting operation to add them to the *Working Group*.

Note – *At least one of the machines must be set up as a "Harvester". Do this in the Options tab of the Machine Properties dialog.*

    b. ***Add People to the Working Group***: Click **+** beside *People* to expand the group, and then double-click the person(s) you want to use in the harvesting operation to add them to the *Working Group*.

    To remove an item from the *Working Group*, click the Remove icon . To remove all items, click the Remove All icon .

2. Once all the required machines and people are added to the *Working Group*, click **Apply to Fields**.
3. Click the plus sign to expand the tree, click the box beside the field(s) for which you are planning the job and then click **Record Completed Jobs**.

    To remove a field from the planting operation, clear the check box.

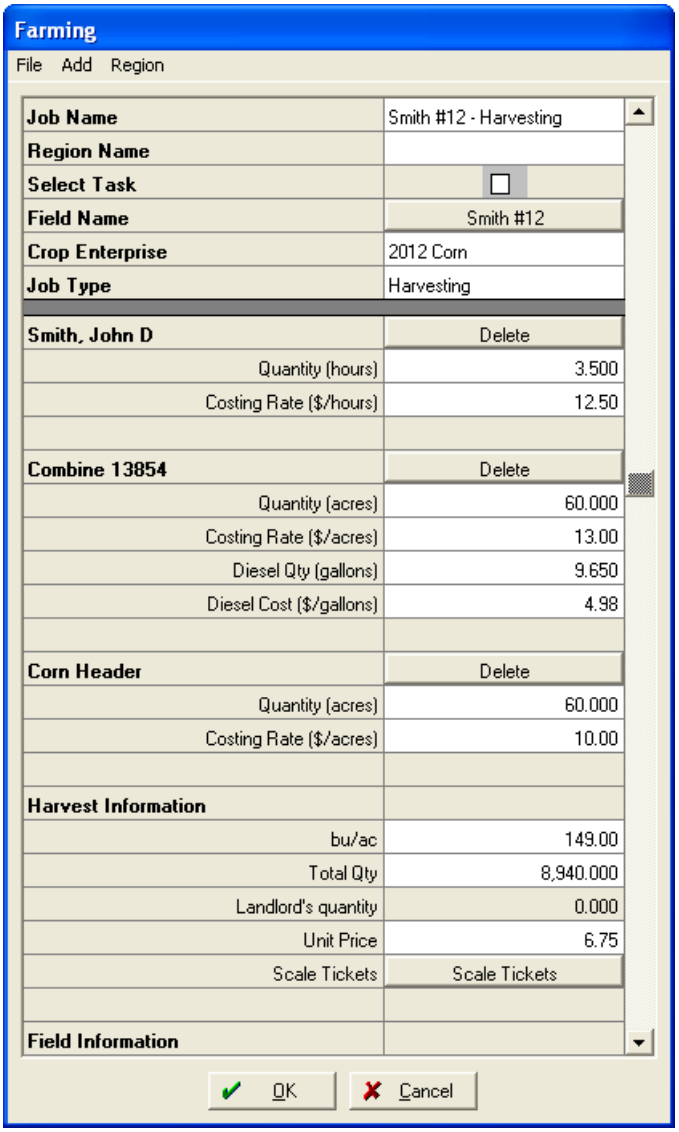
    If a wrong Field is selected, click it and then select a different Field from the *Fields* dialog.

4. *Crop Enterprise* is blank if you have not previously selected a crop enterprise for the field—you can select or add a crop from the drop-down list.

Note – *It is recommended that you select a crop enterprise even if you are unsure of the crop; this can be edited at any time. If the Crop Enterprise changes throughout the year (for example, you planted beans where you planned on planting corn) you can edit this under each individual job.*

5. The *Job Type* is automatically populated according to the type of machine(s) used in the farming operation, for example if you select a machine from the *Harvesting* folder, *Harvesting* is listed as the *Job Type*. You can select or add a different *Job Type* from the drop-down list. Because job types are often used to search operations that take place throughout the year and can be queried for reports and editing, it is important to select the correct job.
6. Enter/change the *Console ID* if required.
7. *Area Farmed* defaults to the tillable acres of the selected field—if a partial operation was completed previously, it defaults to the remaining tillable acres.

Area Farmed carries to the charge units and applied area of the inputs below.



8. In addition to these steps, do the following:

   a. In the *Harvest Information* area, enter the *Yield/Ac* or *Qty. Harvested*. The correct amount for the other is calculated based on the Area Farmed.

   b. Enter the *Unit Price.* If the *Value* was entered when the commodity was setup, the program will default the unit price to that value. The price entered here is used on the Field Enterprise Statements and typically is the price the crop could be sold for if sold at harvest.

   c. If scale tickets are available, click **Scale Tickets** and then enter the required information. See Entering Scale Tickets, page 75.

d. If the Farm Works Accounting software is installed, click **Harvest Destination**. For more information on harvested crop inventories, refer to the *Farm Works Accounting Software User Guide.* When the harvest is recorded, it is in effect sold from the field enterprise to the marketing enterprise. Adjustments made to the commodity by over-selling or adjusting is only recorded as a gain or loss on the marketing enterprise. If the harvested amount is incorrect, you must adjust the harvest job.

The completed operation is added to the *Jobs* tab in black text and shows the Completed icon for every field where the operation was performed.

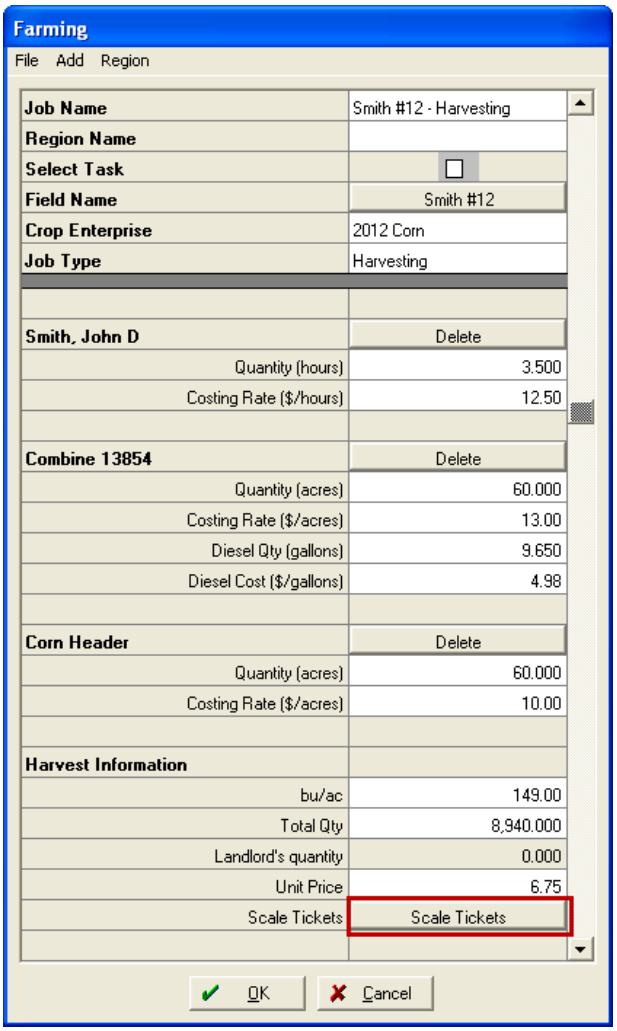
If you do not plan to set up more jobs using current inputs, click the Remove All icon to remove the items from the *Working Group*.

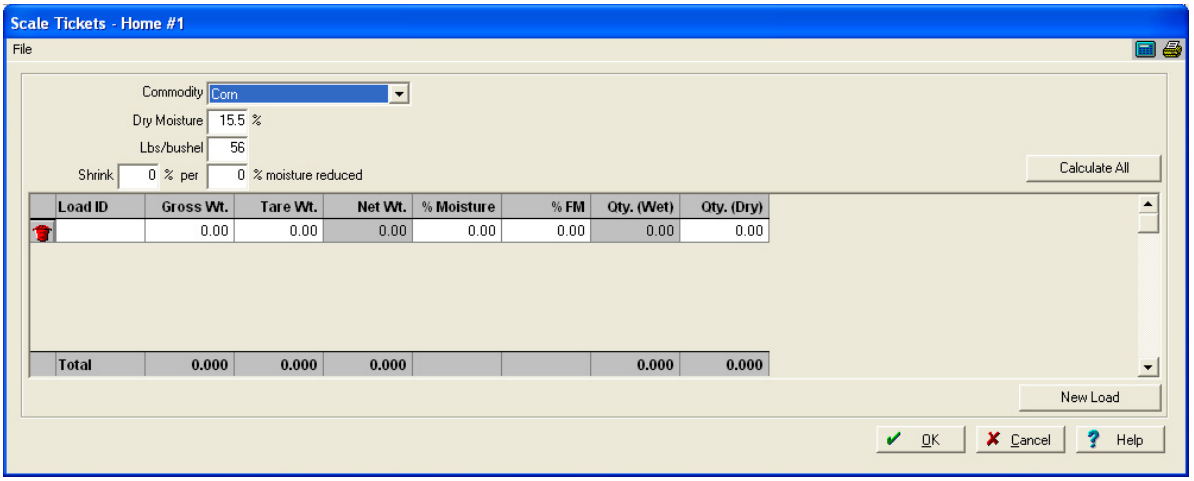
Entering Scale Tickets

When entering a harvest operation, you can also enter scale tickets. This can be an easy way to calculate yield, and allows you to keep these records and print scale ticket reports. Scale ticket information is transferred to *Qty. Harvested* and *Yield/ac* in the *Farming* dialog.

Scale tickets may not be available at the time of harvest—you can enter an estimate when you set up the job and enter accurate information when it is available. This overrides any previously entered values.

1. In the *Farming* dialog, click **Scale Tickets** in the *Harvest Information* area.

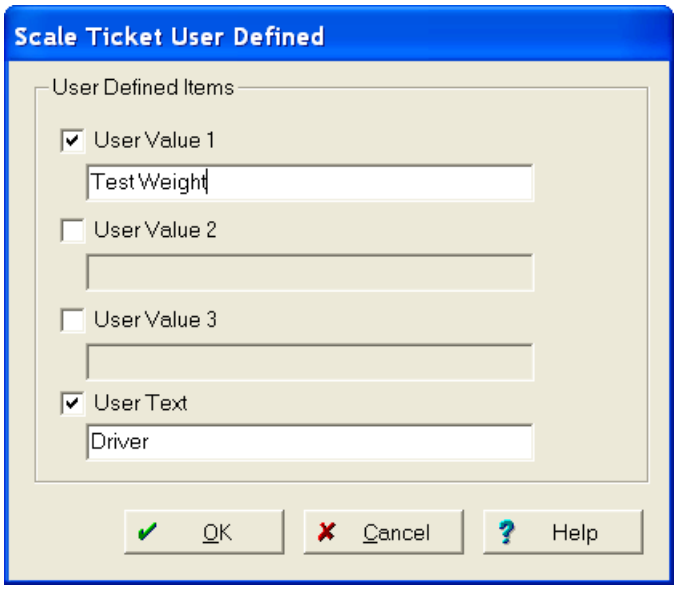




2. Select the *Commodity* or select *<Add/Edit>* to add a new commodity if this is not listed. If the field has a commodity assigned to it, the program will default that commodity in the *Commodity* field of the scale tickets.
3. Enter the *Dry Moisture, Lbs/bushel,* and *Shrink* values. When you enter the ticket information, these numbers are used to calculate the *Qty. (Dry).*

   Dry Moisture and *Lbs/Bushel* will default based on the information set up in the *Commodity Properties*.
4. In the table, enter the *Load ID* (ticket number), *Gross Wt., Tare Wt., % Moisture,* and *% FM* from the scale ticket.
5. To add additional columns that you can use to keep track of information, such as Test Weights, Protein, and other values:

   a. Select *File / Edit User Defined Items*.



   b. Select the *User Value* or *User Text* check box and then enter a name for the column in the field below the check box. You can up to four numeric and one text item.

   c. Click **OK**. The *Scale Ticket* dialog now has new columns where you can enter additional information for each load / scale ticket.
6. To add rows, click **New Load**.
7. Once all the ticket information is entered, click **Calculate All**. This calculates the remaining fields and the *Total* row.

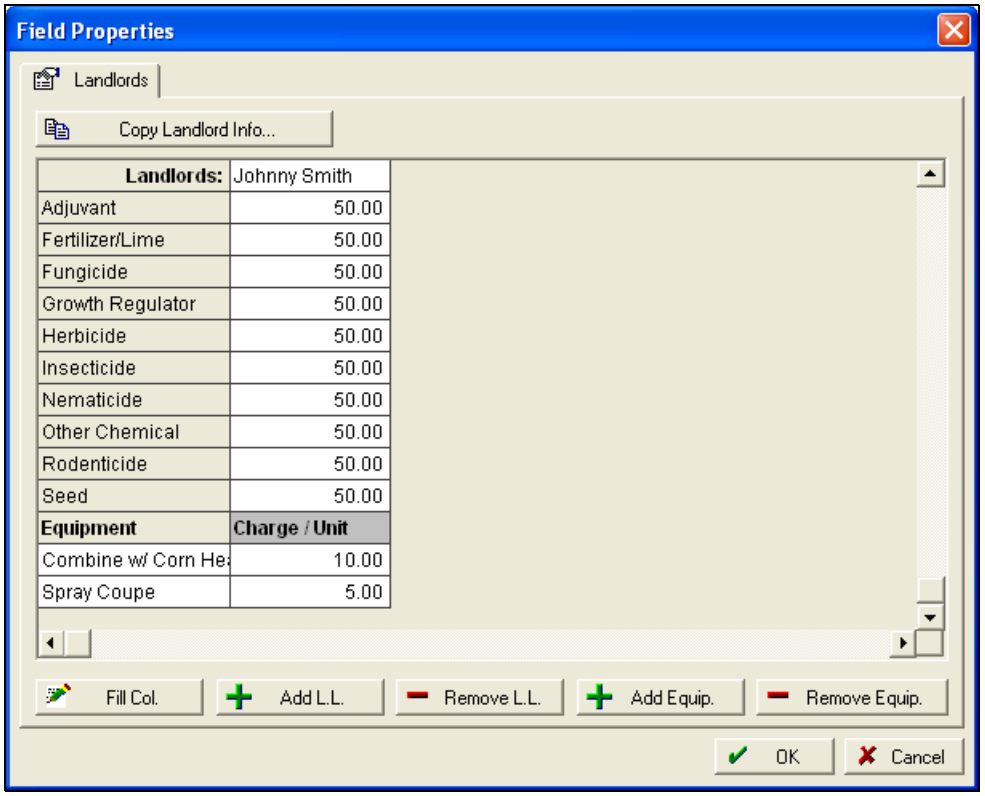
Note – *To print an abbreviated scale ticket report, select File / Print. If you want to print a complete report, select Reports / All Reports, click Field and then select Scale Ticket Report.*

8. Click **OK**. The *Total Qty. (Dry)* is entered into the *Qty. Harvested* field in the *Farming* dialog.

Editing landlord/sharecrop information when completing a job

Enter *Sharecrop Information* in the *Farming* dialog. This allows you to modify any charges, receipts, and inputs for a landlord while performing a farming operation:

1. In the *Farming* dialog, click **Landlords** in the *Sharecrop Information* area.



2. The *Landlords* tab of the *Field Properties* dialog appears. From here, you can add/modify any information for Harvest/Input charges and percentages as well as equipment charges, if applicable.
3. You can also add and remove landlords from the sharecrop information on the Field.

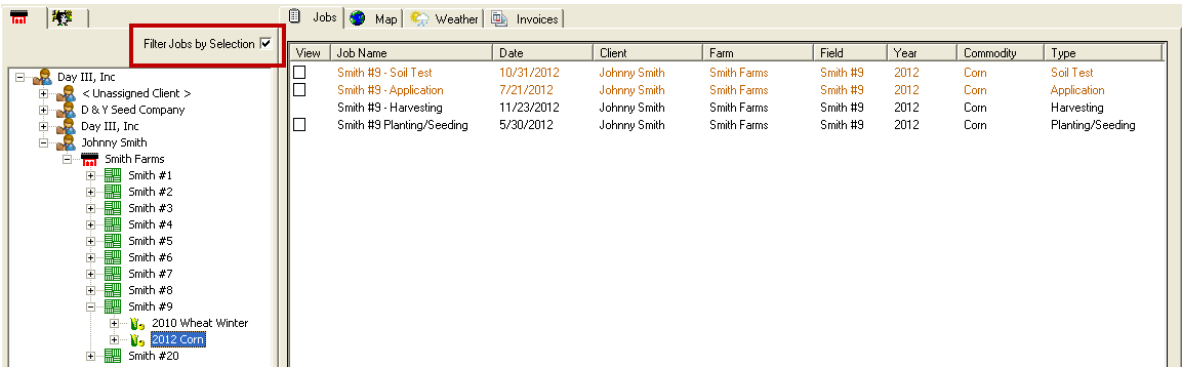
For more information on landlord properties, see Setting up a Field, page 32.

Finding an existing job

You can find planned and completed farming operations (jobs) in the *Farm, Jobs*, or *Input* tab.

Finding a job in the Farm tab

1. Select *View / Show Jobs in Land Areas.*
2. Click **+** to open the *Farm* tree where you recorded the job.



3. To find a specific job recorded for this particular field and enterprise, highlight the correct crop enterprise and then select the *Filter Jobs by Selection* check box. Only the jobs recorded for this field and enterprise appear in the *Jobs* tab.

   To remove the filter, clear the *Filter Jobs by Selection* check box or click **Clear Filter** in the *Jobs* tab.

Finding a job in the Jobs tab

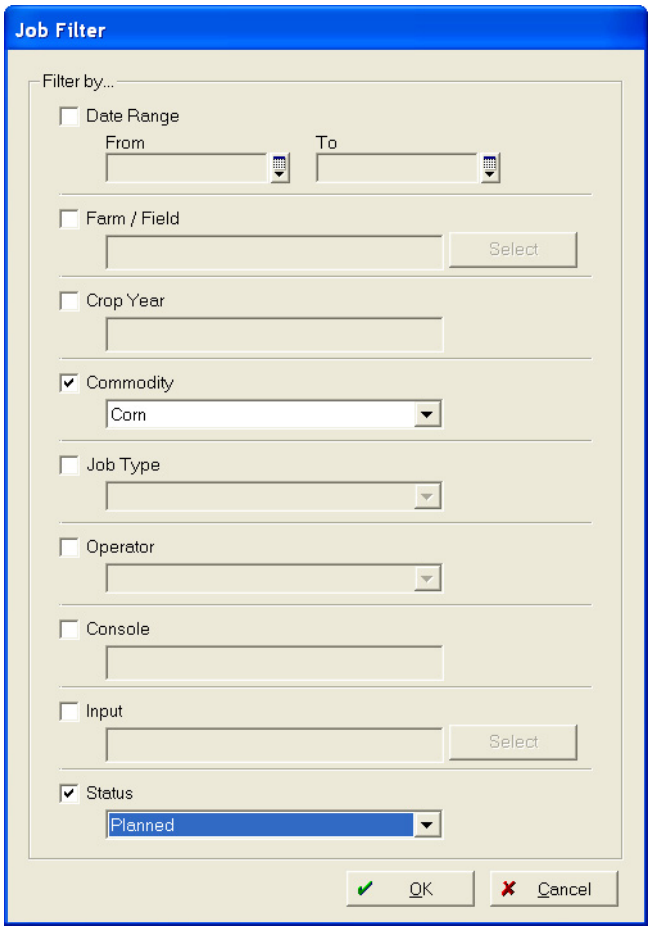
The *Jobs* tab shows all the planned jobs (orange text, Planned icon) and completed jobs (black text, Completed icon) you entered, synchronized, or imported into the software.

In the *Jobs* tab, scroll to the job or use the sorting and filtering options:

- Click the column header (for example, *Client* or *Date*). Click the header again to reverse the sort order.

- Apply a filter to find a job:

  a. Click **Edit Filter.**



  b. Enter Filter criteria—click the appropriate check box (for example, *Commodity*) and then select the required item from the drop-down list (for example, *Corn*) and then click **OK.** You can enter more than one filter at the same time to limit the search. For example, you can also select *Status* and then select *Planned*, or use a specific date range.

     Only jobs that meet the criteria appear in the *Jobs* tab.

     To remove criteria from the job filter, clear the check boxes.

  c. Click **OK**.

To show all jobs again, click **Clear Filter** in the *Jobs* tab.

Note – *If you apply a filter and no jobs appear in the Jobs tab, click* ***Clear Filter*** *to view all jobs.*

Finding a job in the Inputs tab

This allows you to find a job based on a Machine, Person, or Supply:

1. In the *Inputs* tab, click **+** to open the category for the input used in a job.

Filter Jobs by Input
Inputs
Animals
Machines
People
Mason, Johnny L
Smith, John D
Wright, Thomas R
Supplies
Jobs
Map
Weather
Invoices
View
Job Name
Date
Client
Farm
Field
Year
Commodity
Type
Smith #9 - Application 7/21/2012 Johnny Smith Smith Farms Smith #9 2012 Corn Application
DY #6 - Application 4/28/2012 D & Y Seed Comp... D & Y Seed DY #6 2012 Soybean Application
Home #10 - Application 4/22/2012 Day III, Inc Home Home #7 2012 Soybean Application
Smith #7- Harvesting 10/27/2010 Johnny Smith Smith Farms Smith #7 2010 Corn Harvesting
DY #1 - Harvesting 11/15/2012 D & Y Seed Comp... D & Y Seed DY #1 2012 Corn Harvesting
DY #1 - Planting/Seeding 5/15/2012 D & Y Seed Comp... D & Y Seed DY #1 2012 Corn Planting/Seeding
13 - Harvesting 10/5/2012 Johnny Smith Smith Farms Smith #20 2012 Corn Harvesting

2. To find a specific job, highlight the input item and then select the *Filter Jobs by Input* check box. All jobs that use this input appear in the *Jobs* tab.

   To remove the filter, clear the *Filter Jobs by Inputs* check box or click **Clear Filter** in the *Jobs* tab.

Editing jobs

You can edit both planned and completed jobs.

1. Find the job you want to edit, see Finding an existing job, page 79, right-click it and then select *Properties*.
2. Make the required changes to the *Farming* dialog—you can change or modify any field. See Creating a planned job, page 63.
3. You can also:
   - Add an input; select *Add/ Input*. See page 67.
   - Delete an input. See page 67.
4. Click **OK** to record the changes made to the job.

Removing/deleting jobs

⚠ **CAUTION –** Once a job is deleted, records are ***permanently*** removed.

You can delete planned or completed farming operations at any time. If you delete a job, it permanently removes the job and replaces any inventories (only if the Farm Works Accounting software is installed), and subtracts any charge units when inputs were used.

1. Find the job you want to delete. See Finding an existing job, page 79.
2. Verify that this is the correct job—right-click it and then select *Properties*. To return to the *Jobs* tab, click **Cancel**.

3. If you are satisfied that this is the job you want to delete, select it in the *Jobs* tab and then click **Delete**.

To delete several jobs at once that are not grouped together, hold down the Ctrl key as you select each operation in the *Jobs* tab and then click **Delete**.

To delete several jobs at once that are grouped, hold down the Shift key, select the first job in the group and then select the last job in the group and then click **Delete**.

Exporting jobs

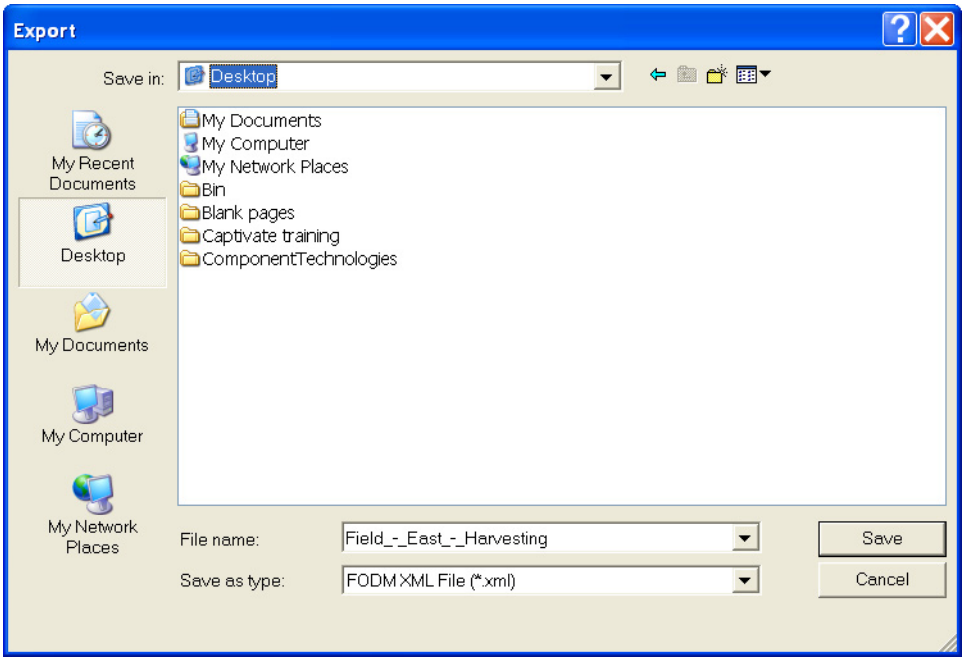
Once jobs are created, you can export both planned and completed jobs for different uses outside of the office or on another device. This may be called exporting or writing data. Jobs can be exported in several formats, including CSV and FODM (.xml) files, and for use with the Mobile software.

Exporting a job does not remove it or change it in the *Jobs* list. You can use the job data in another field recording or in Farm Works Mapping software.

Exporting CSV or XML files

You can export only one CSV file at a time, but you can export multiple jobs in a single XML file.

1. In the *Jobs* tab, scroll to the job or use the sorting and filtering options to find the job(s). See Finding a job in the Jobs tab, page 79.
2. Right-click the required job and then select *Export,* or click **Export**.



3. Select a location in the *Save in* field, enter a name for the job in *File Name* and then select an option from the *Save as type* list. The options are *Comma Separated Values File (*.csv)* or *FODM XML File (*.xml).*
4. Click **Save**.

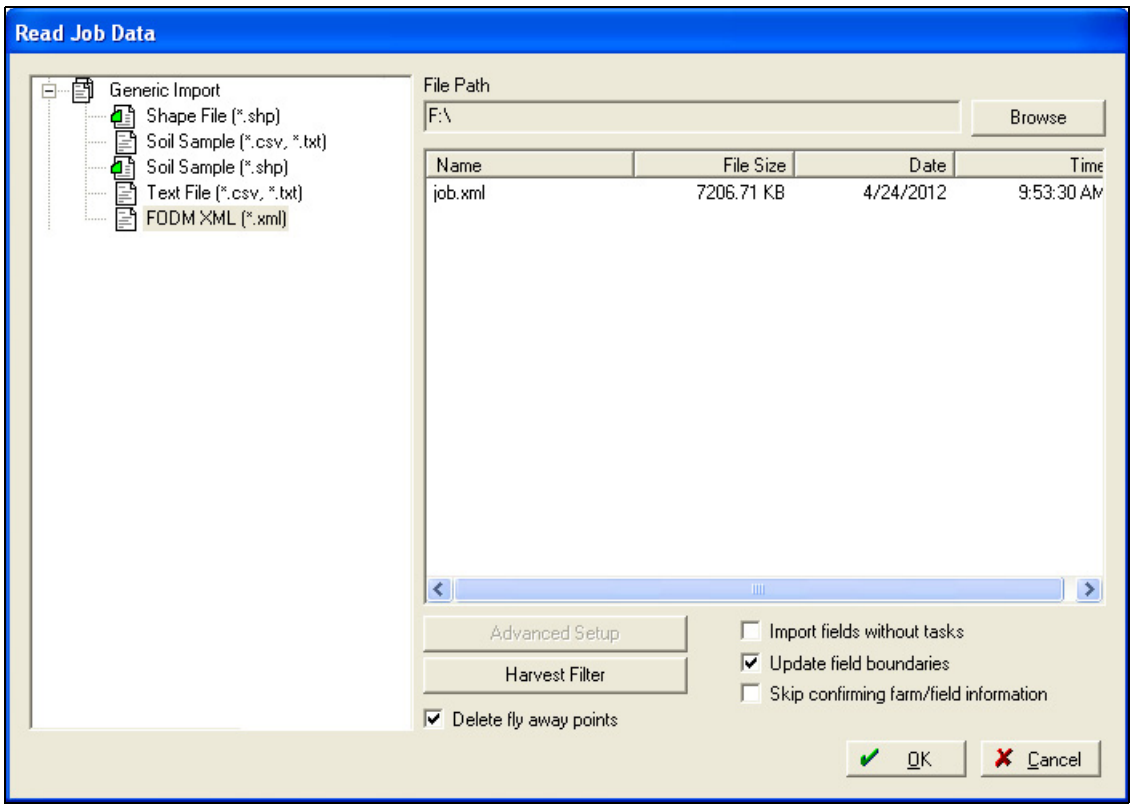
The exported job is saved to the chosen location. Use Explorer to locate the file to copy it to a removable drive, attach it to an email, or import it back into the software.

Importing FODM XML files

You can import FODM (*.xml) files that were created by another user of the software or by other software. FODM files include field record data as well as any associated map data. The imported job is added to the *Jobs* tab where you can view, edit, print, or export it.

Importing jobs is not the same as synchronizing. Refer to the *Farm Works Mapping Software User Guide* for more information.

1. Select *File / Read Job Data* or click the Read Job Data icon .



2. Click **Browse** to select the *File Location*.
3. Click **OK**; the XML file appears in the *Job* tab. The *Linker* dialog appears—click **+** next to *Generic Import* and then select *FODM XML (*.xml).*

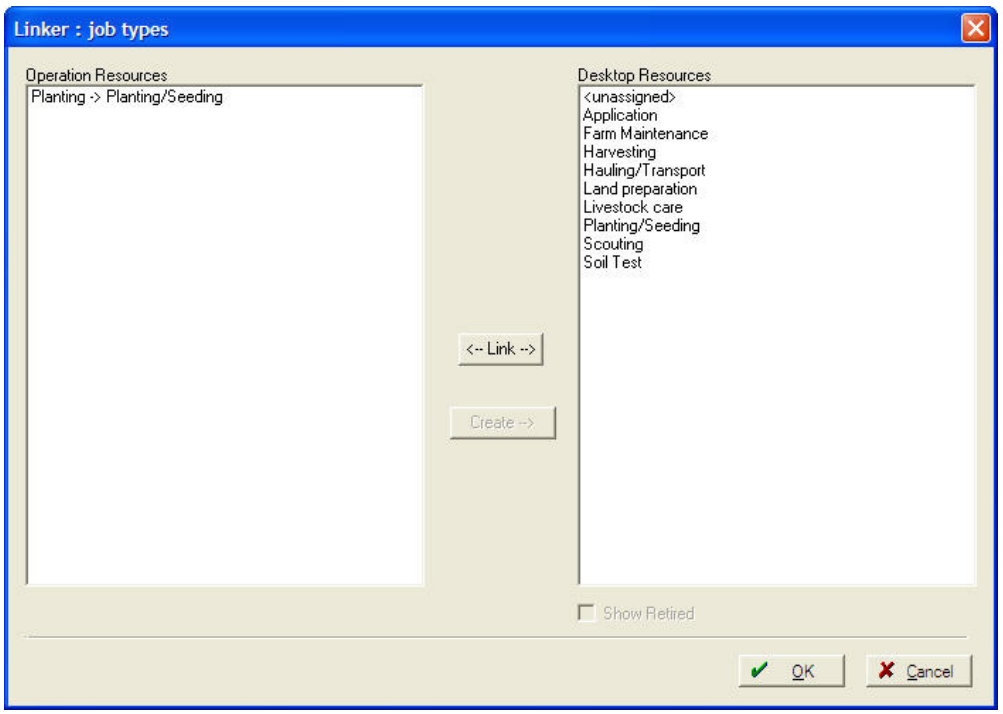
4. Click **OK**.

The imported job is added to the *Jobs* tab.

Linking resources when synchronizing or importing jobs

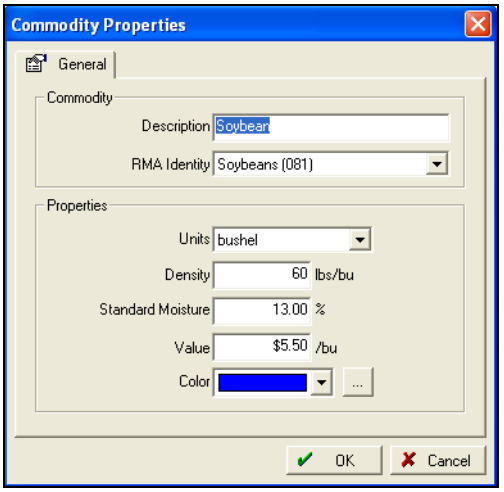
When importing jobs from a file or from the Mobile software, there may be resources and job entry items that were not previously entered into the office software. These can be created elsewhere and then set up when importing. When a resource is entered in the field, a different name may be used than that used in the office.

The *Linker* dialog appears when you import jobs to create new resources and allows you to "link" new and current items. Once items are linked, the software assumes that the two different items are actually one. There are two resource lists: *Operation* and *Desktop*. If there are items in the *Operation* list, you must either create or link them using the desktop software.



1. Select an item in *Operation Resources* and then do one of the following:
   - Click **Create** with the item highlighted on the operations resource side. This opens the *Commodity Properties* dialog so that you can set up the particular item.

- If it is a new item, click **OK** and then enter the required information into the *Commodity Properties* dialog.



Note – *You will not be prompted to enter this information until you have completed all the Link screens.*

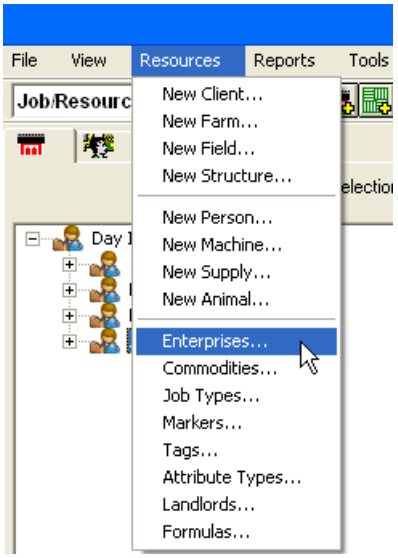
- If the item is the same as an item already listed in *Desktop Resources,* select both items and then click **Link**.

  If you are confident that the item was set up earlier, but it does not appear in *Desktop Resources*, it may be a retired item. Select the *Show Retired* check box.

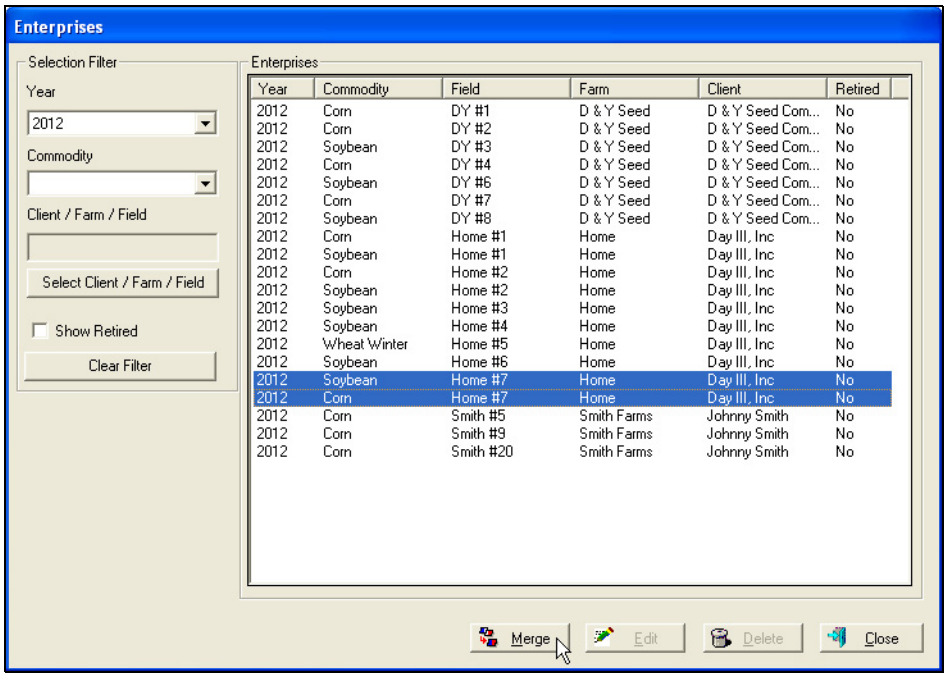
2. Once all items are linked or created, click **OK**.

Merging crop enterprises

1. Select *Resources / Enterprises*.



2. Select the two enterprises that you want to merge and then click **Merge**.

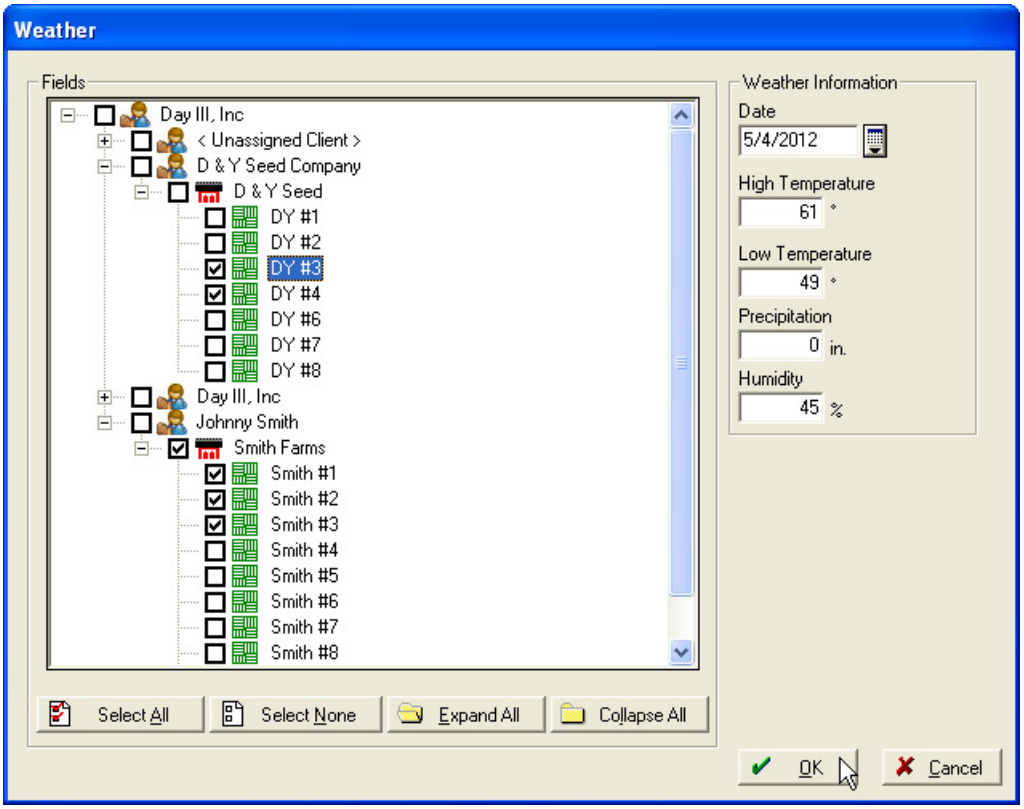

Enterprises
Selection Filter
Year
2012
Commodity
Client / Farm / Field
Select Client / Farm / Field
Show Retired
Clear Filter
Enterprises
Year Commodity Field Farm Client Retired
2012 Corn DY #1 D & Y Seed D & Y Seed Com... No
2012 Corn DY #2 D & Y Seed D & Y Seed Com... No
2012 Soybean DY #3 D & Y Seed D & Y Seed Com... No
2012 Corn DY #4 D & Y Seed D & Y Seed Com... No
2012 Soybean DY #6 D & Y Seed D & Y Seed Com... No
2012 Corn DY #7 D & Y Seed D & Y Seed Com... No
2012 Soybean DY #8 D & Y Seed D & Y Seed Com... No
2012 Corn Home #1 Home Day III, Inc No
2012 Soybean Home #1 Home Day III, Inc No
2012 Corn Home #2 Home Day III, Inc No
2012 Soybean Home #2 Home Day III, Inc No
2012 Soybean Home #3 Home Day III, Inc No
2012 Soybean Home #4 Home Day III, Inc No
2012 Wheat Winter Home #5 Home Day III, Inc No
2012 Soybean Home #6 Home Day III, Inc No
2012 Soybean Home #7 Home Day III, Inc No
2012 Corn Home #7 Home Day III, Inc No
2012 Corn Smith #5 Smith Farms Johnny Smith No
2012 Corn Smith #9 Smith Farms Johnny Smith No
2012 Corn Smith #20 Smith Farms Johnny Smith No
Merge
Edit
Delete
Close

Weather tab

The *Weather* tab allows you to enter weather observations and apply them to one or more fields. The information can be edited, applied to additional fields, removed from fields, or deleted.

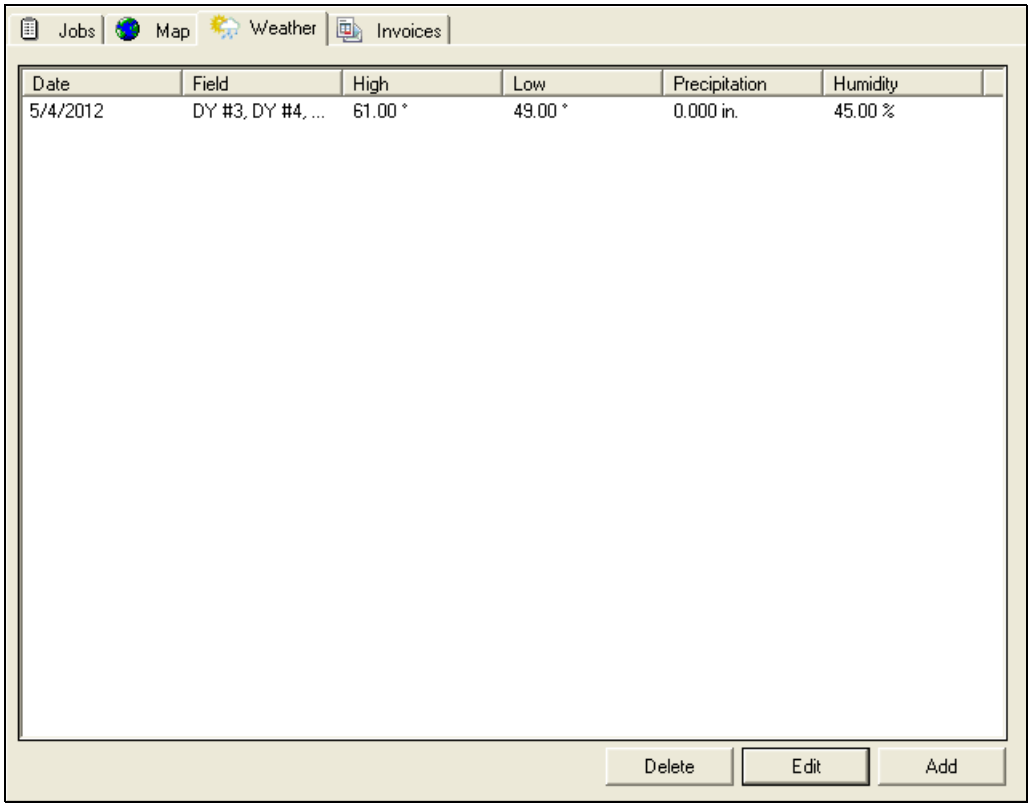
Adding weather information

1. In the *Weather* tab, click **Add**.



2. In the *Weather* dialog:
   a. In the *Fields* area, select the Farm / Fields to which the weather information will be applied.
   b. In the *Weather information* area, enter the *Date, High Temperature, Low Temperature, Precipitation*, and *Humidity*.
   c. Click **OK**.

The weather information appears in the *Weather* tab.



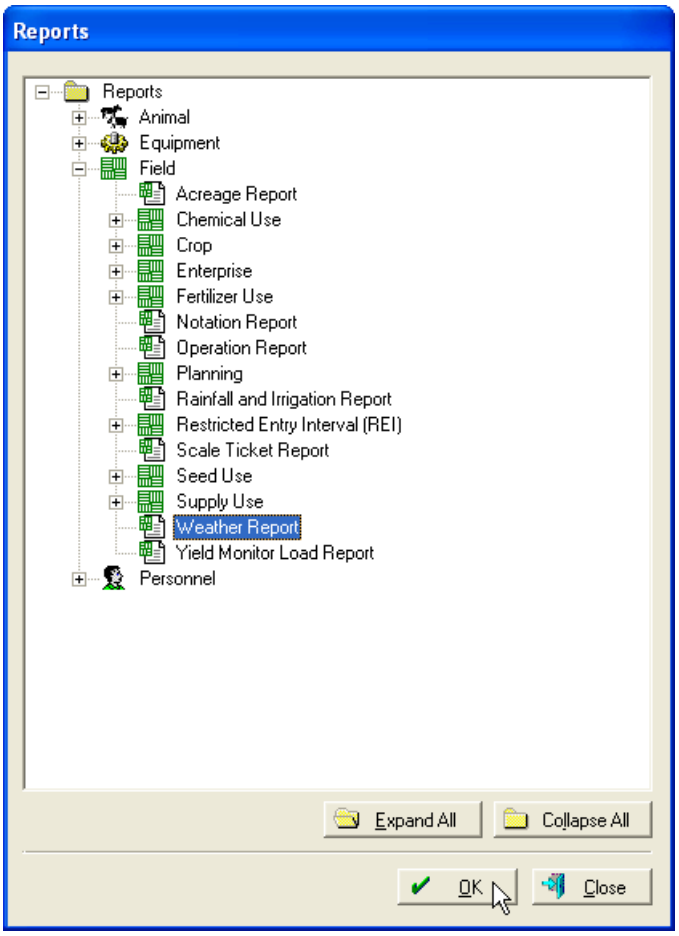
You can now do any of the following:

- To edit weather information, select the item and then click **Edit**. To clear Clients/Farms/Fields, clear the check box. Once you have made the required changes, click **OK**.
- To delete weather information, select the item and then click **Delete**.
- To add additional weather information, click **Add**.

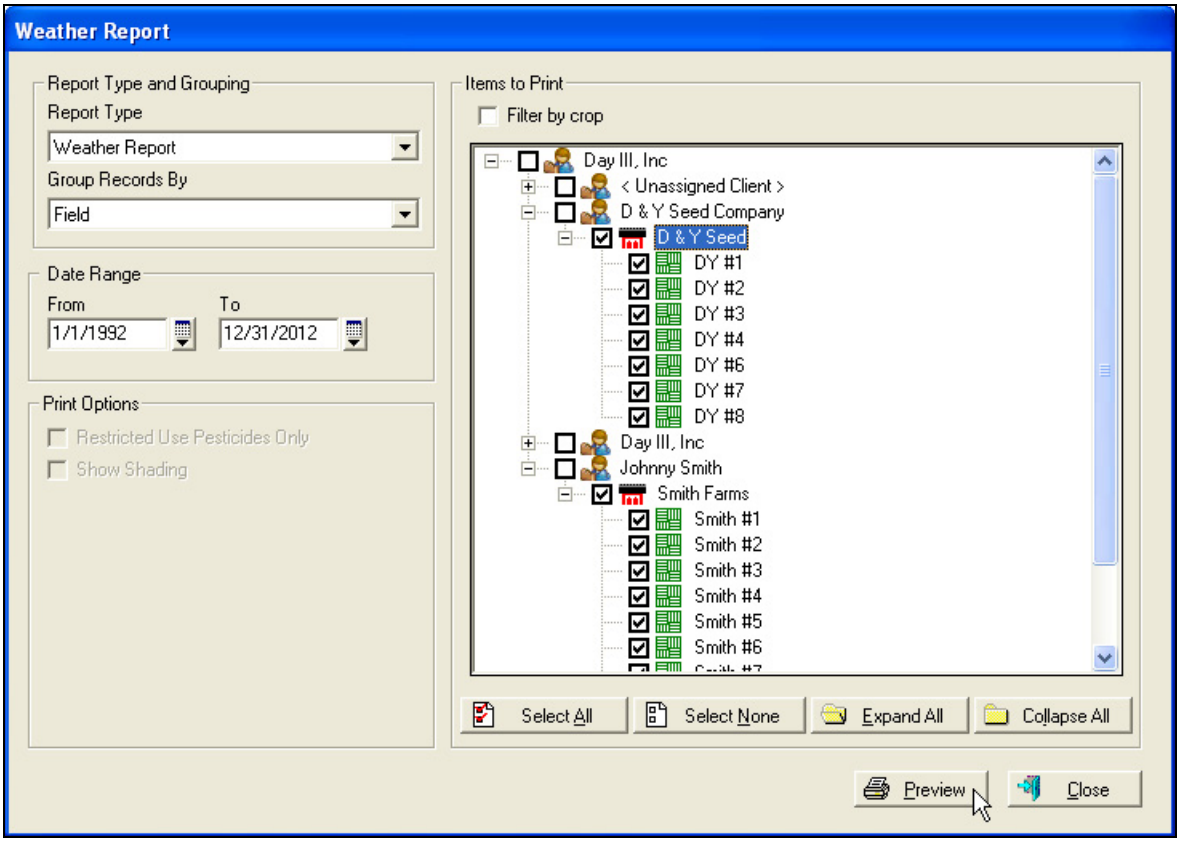
Viewing and printing a weather report

1. Do one of the following:
   - Select *Reports / All Reports*.
   - Click the report icon .

2. Click **+** beside the *Field* category or click **Expand All**.

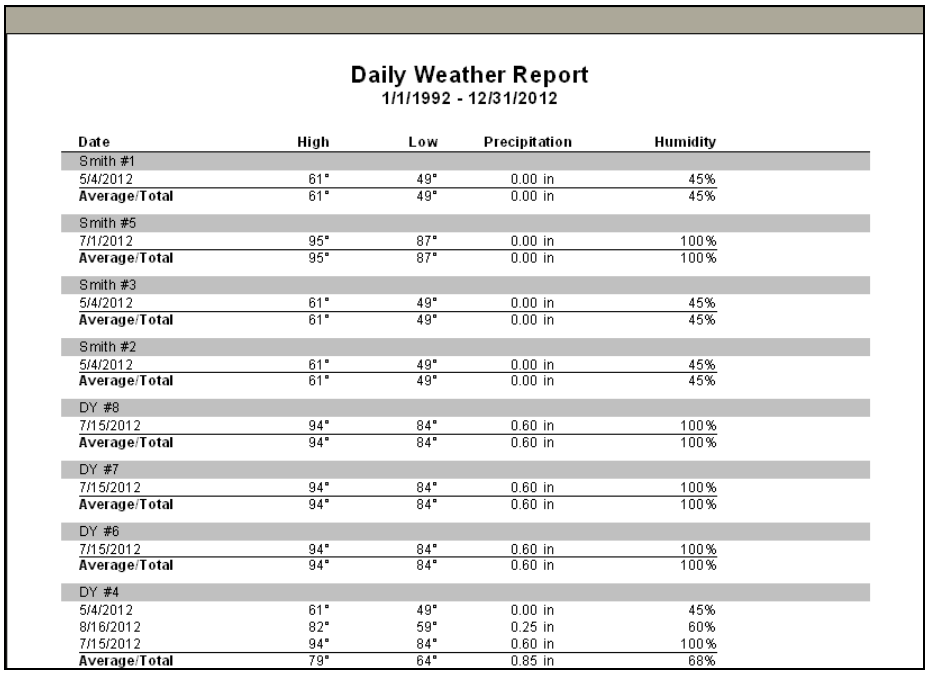


3. Select *Weather Report* and then click **OK**.



4. Select each item that you want to include in the report or click **Select All** to select all items.
5. Enter a Date Range and then click **Preview**.

The Print Preview shows the first page of the report. To view other pages, click the Next Page ⟩ or Previous Page ⟨ icon.



Daily Weather Report
1/1/1992 - 12/31/2012

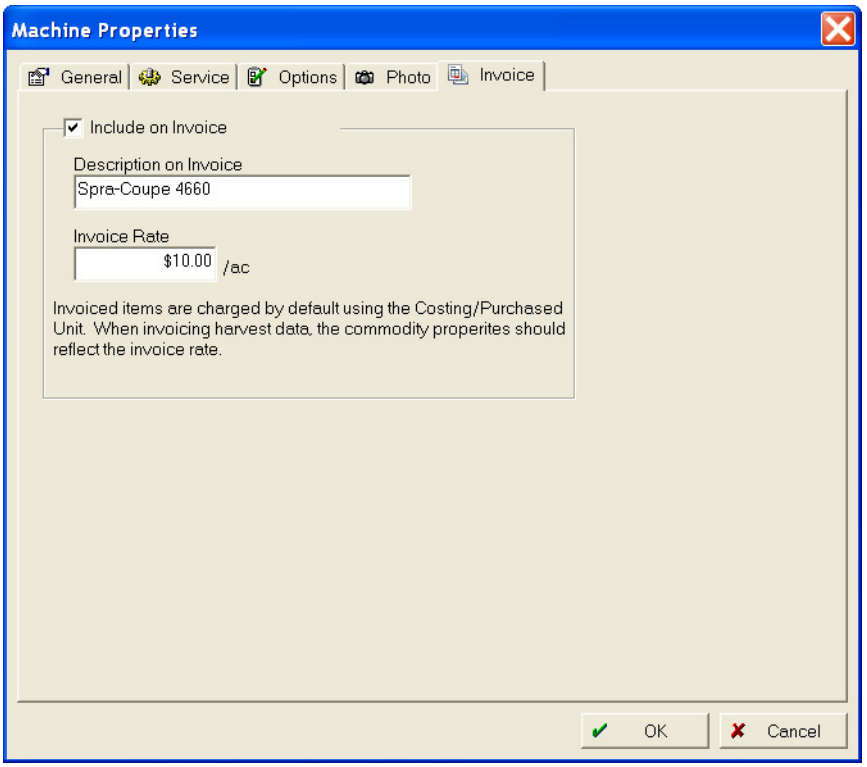
Date	High	Low	Precipitation	Humidity
Smith #1				
5/4/2012	61°	49°	0.00 in	45%
Average/Total	61°	49°	0.00 in	45%
Smith #5				
7/1/2012	95°	87°	0.00 in	100%
Average/Total	95°	87°	0.00 in	100%
Smith #3				
5/4/2012	61°	49°	0.00 in	45%
Average/Total	61°	49°	0.00 in	45%
Smith #2				
5/4/2012	61°	49°	0.00 in	45%
Average/Total	61°	49°	0.00 in	45%
DY #8				
7/15/2012	94°	84°	0.60 in	100%
Average/Total	94°	84°	0.60 in	100%
DY #7				
7/15/2012	94°	84°	0.60 in	100%
Average/Total	94°	84°	0.60 in	100%
DY #6				
7/15/2012	94°	84°	0.60 in	100%
Average/Total	94°	84°	0.60 in	100%
DY #4				
5/4/2012	61°	49°	0.00 in	45%
8/16/2012	82°	59°	0.25 in	60%
7/15/2012	94°	84°	0.60 in	100%
Average/Total	79°	64°	0.85 in	68%

Creating invoices

If you are using the Farm Works Accounting software, you can create invoices for use in billing custom-hire work, supply and crop sales, and Landlord percentages.

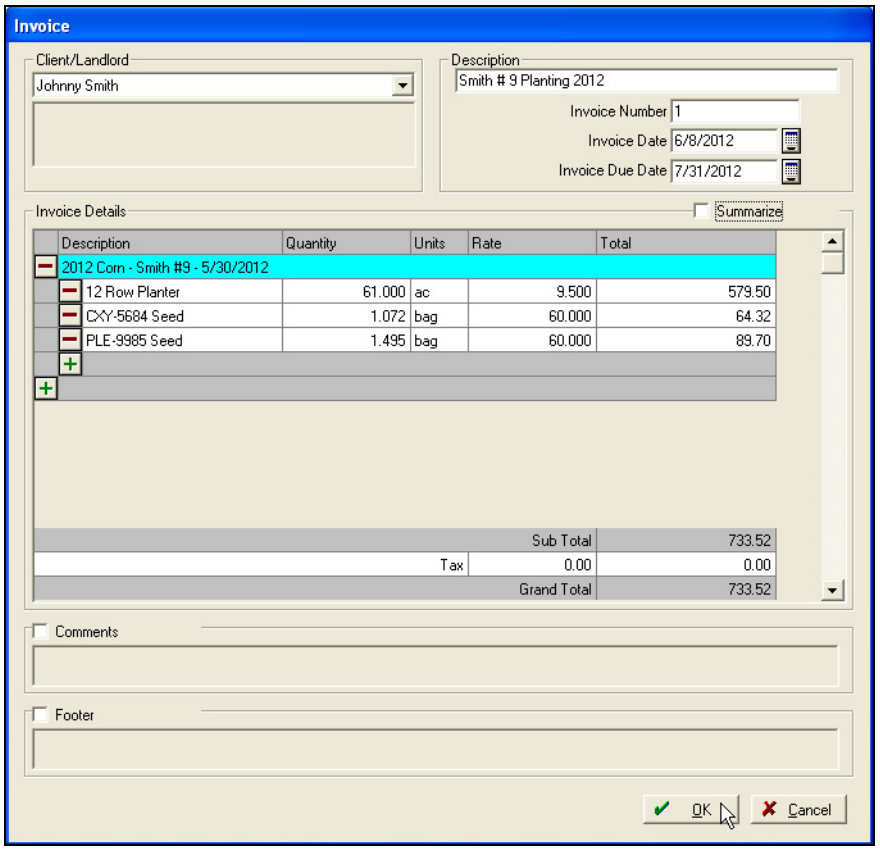
1. For more information on printing invoices from the Farm Works Accounting software, refer to the *Farm Works Accounting Software User Guide.* Make sure that the equipment, people, and supplies to be used in invoicing are set up correctly.
2. In the *Inputs* tab expand the tree for the required category, right-click the item you want to include on the invoice and then select *Properties*.

3. In the *Properties* dialog, select the *Invoice* tab and then select the *Include on Invoice* check box. Change the *Description on Invoice* (if required) and then enter a dollar amount in *Invoice Rate*.



4. Click **OK**.
5. Complete Step 2 through Step 4 for all equipment, supplies, and people that you want to invoice.
6. In the *Jobs* tab, scroll to the job or use the sorting and filtering options to find the required job, see Finding a job in the Jobs tab, page 79.
7. Select the required job(s) to highlight them, right-click any selected job and then select *Create Invoice*.
8. If a Landlord was set up for this field, you are prompted to select the inputs that must be billed. Select from *Farm Inputs Only, Landlord Inputs Only*, or *Farm and Landlord Inputs* and then click **OK**.
9. Select the Client / Landlord to be billed and then complete the other fields. Any items that you set up in Step 2 through Step 4 appear on screen.

To add additional items, click **+**, select *Add Input* and then enter the required inputs; to delete an item, click **-** next to the item you want to delete.



10. If required, select the *Comment* or *Footer* check box and enter a message or footer to appear on the invoice.
11. Click **OK**.

    Invoices appear in the *Invoice* tab.
12. To print an invoice, right-click the invoice and then select *Print*. From the print preview screen you can print or export the invoice.

You can also:

- Mark an invoice as paid: Right-click the invoice and then select *Paid*. A cross appears in the *Paid* column.

  If required, you can reverse this: Right-click the invoice and then select *Unpaid*. A cross disappears from the *Paid* column.
- Change the invoice: Right-click the invoice, select *Properties* and then make the required changes.
- Delete an invoice: Right-click the invoice and then select *Delete*.

Submitting crop insurance data

Users of Farm Works Software® solutions can now submit their crop insurance records electronically to the Great American Insurance Group. This is done from the Farm Works Mapping software, by directly transferring planting and harvest data.

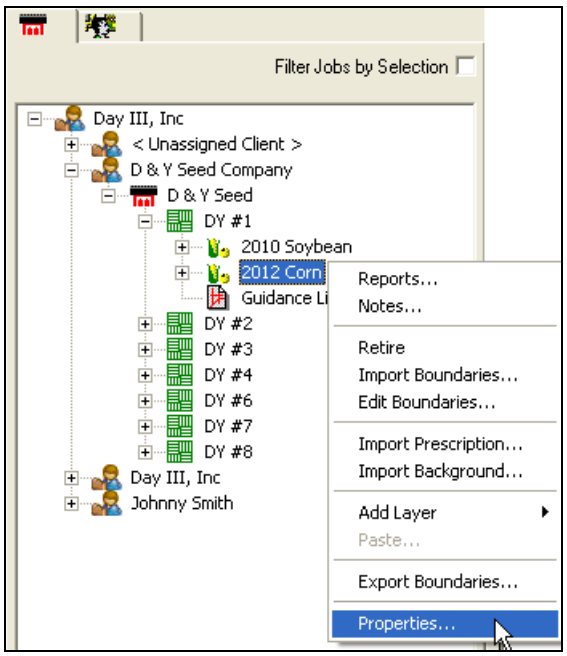
Before you can do this, you must assign the following in the software:

- A County and State to each field, see below
- RMA identities to commodities
- A Type and Practice

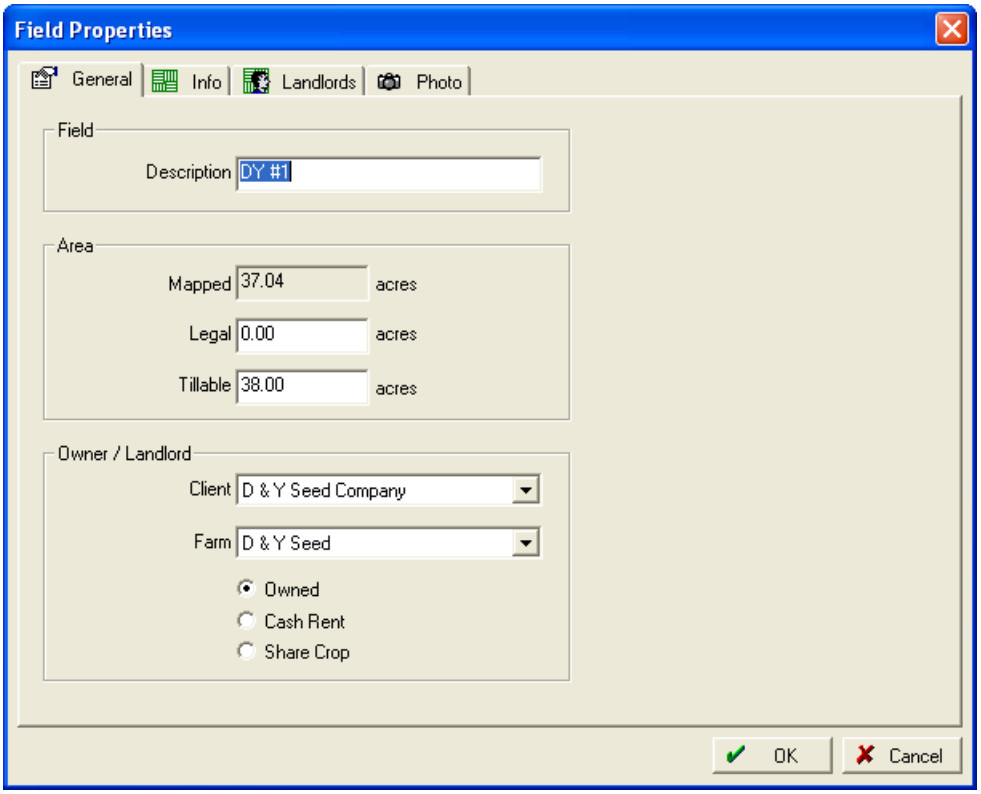
Assigning a County and State to each field

To successfully use the Great American Insurance Submission option, assign a County and State to each field:

1. On the *Farm* tab, click + beside the appropriate Client or Farm to expand the tree view, right-click the required field and then select *Properties*:



2. In the *Field Properties* screen:



   a. On the *General* tab, enter the *Tillable acres*. This data item will be exported to the XML Export option only—it is not submitted to Great American Insurance.

   b. Select the *Info* tab and then select the *State* and *County* where the field is located.

Note – *If the State and County are already displayed, you must still click OK to record the information.*

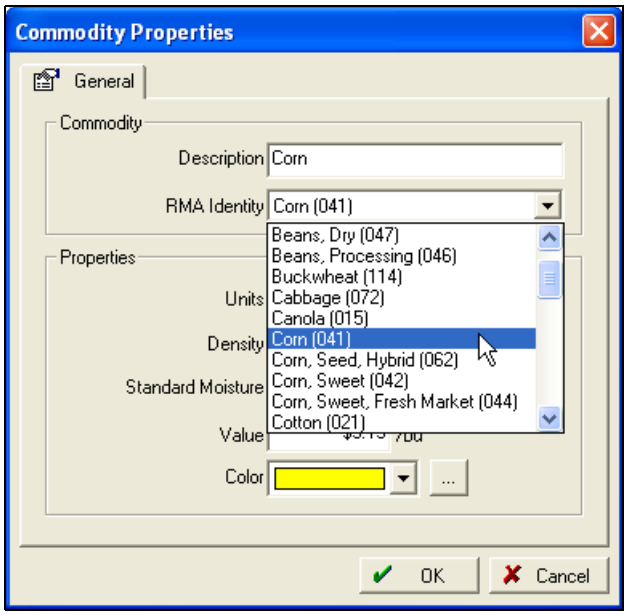
   c. Click **OK** to save changes.

Repeat this procedure for each field.

Assigning RMA Identities to Commodities

1. Select *Resources / Commodities*. The *Commodities* dialog shows all commodities currently used.
2. Select the commodity to which you want to assign an RMA identity and then click *Properties*.

3. In the *Commodity Properties* screen, select the correct *RMA Identity* from the drop-down list (if this has not yet been done).



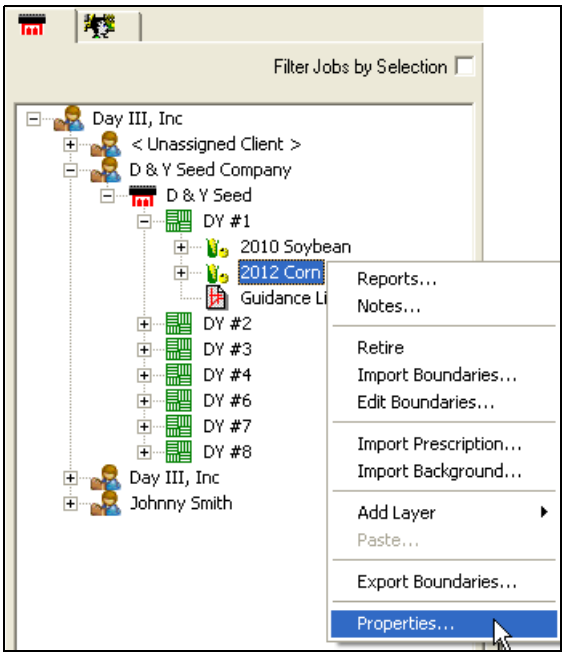
4. Click **OK**.

Assigning a Practice and Type

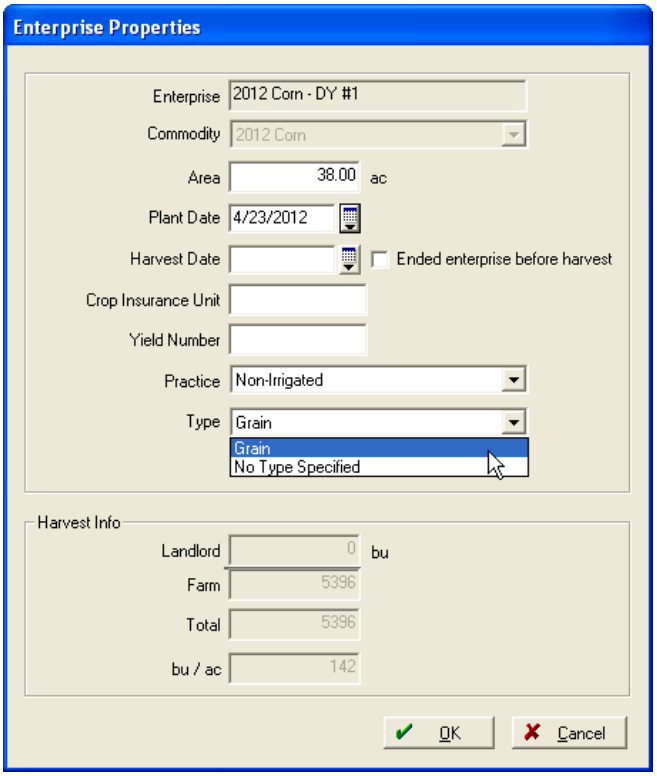
You can assign the *Practice* and *Type* to fields when you submit the data or to the enterprise before data submission.

To assign a *Practice* and *Type* to the enterprise:

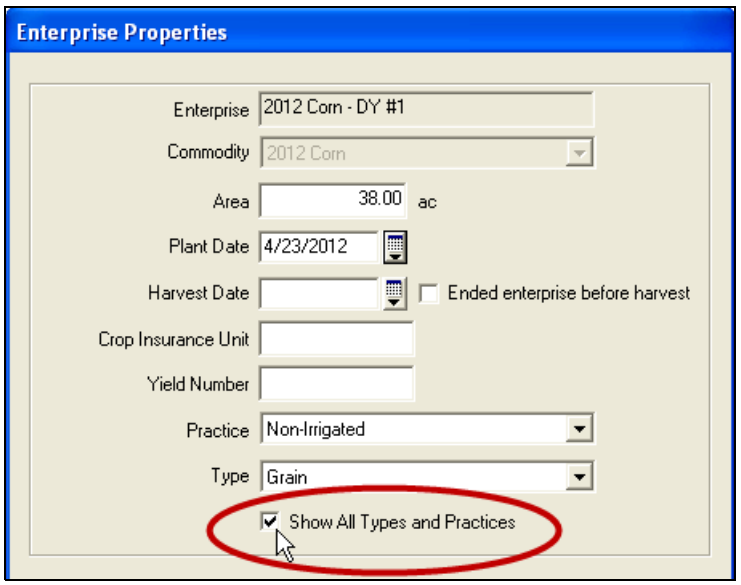
1. In the *Farm* tab, right-click the Crop Enterprise to edit and then select *Properties*.



2. In the *Enterprise Properties* screen, select a *Practice* and *Type* from the drop-down lists.



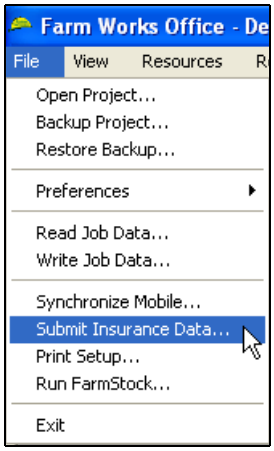
The *Practice* and *Type* lists are limited to the appropriate choices for the field, based on the *State* and *County* selected in the *Field Properties* screen. If the correct *Practice* and *Type* are not listed, select the *Show All Types and Practices* checkbox to show all items for selection.



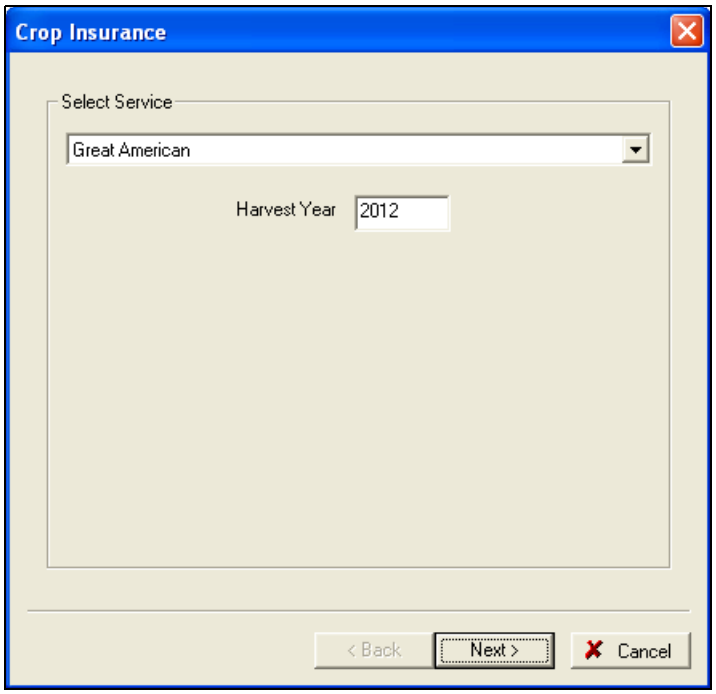
3. Click **OK**.

Submitting data to Great American Insurance Group

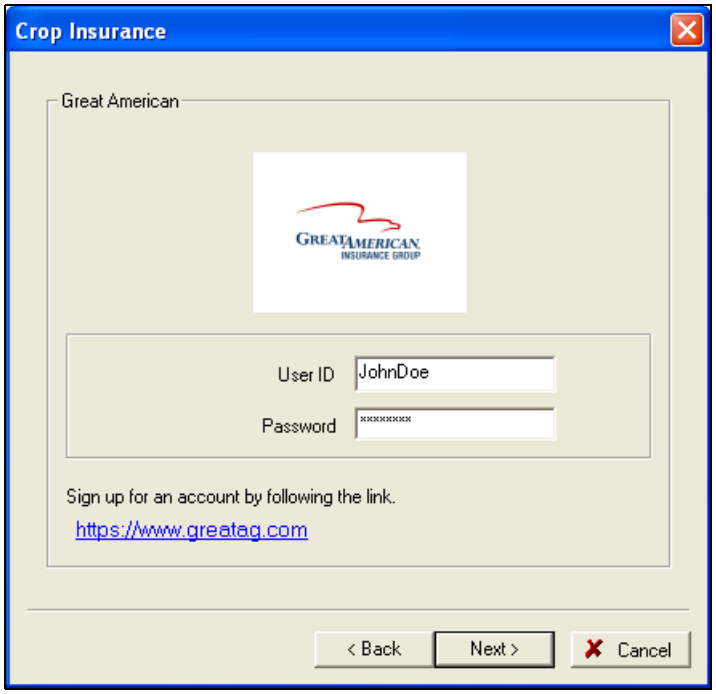
1. Select *File / Submit Insurance Data*.



2. In the *Crop Insurance* screen, select *Great American* from the drop-down list, enter the correct *Harvest Year* and then click **Next**.



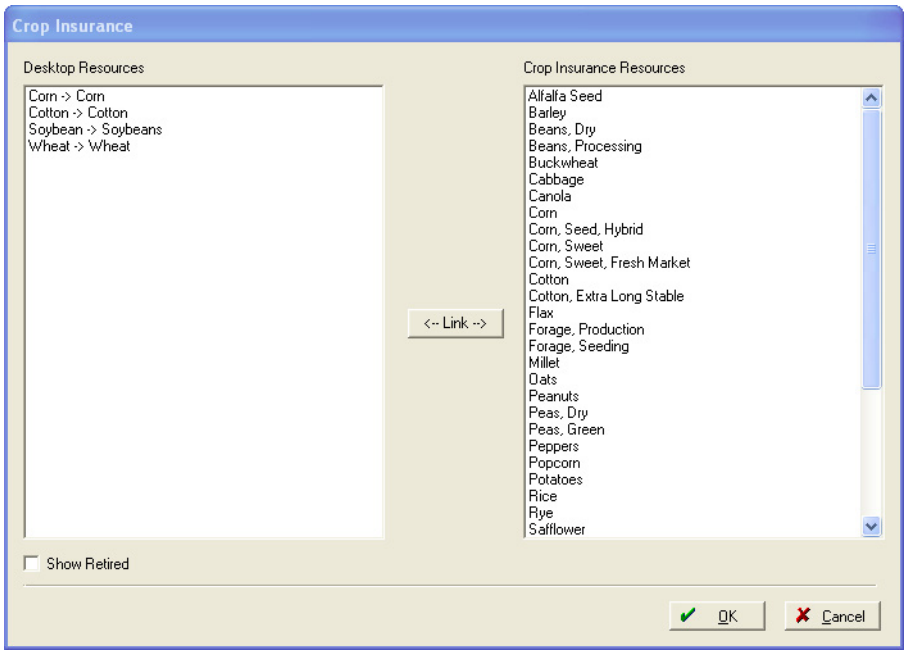
3. Enter the *User ID* and *Password* provided to you by Great American Insurance. If you do not have a User ID and/or Password, click the https://www.greatag.com link to create an account.



4. Click **Next**.
5. Once the Ready to submit data message appears, click **Finish**.

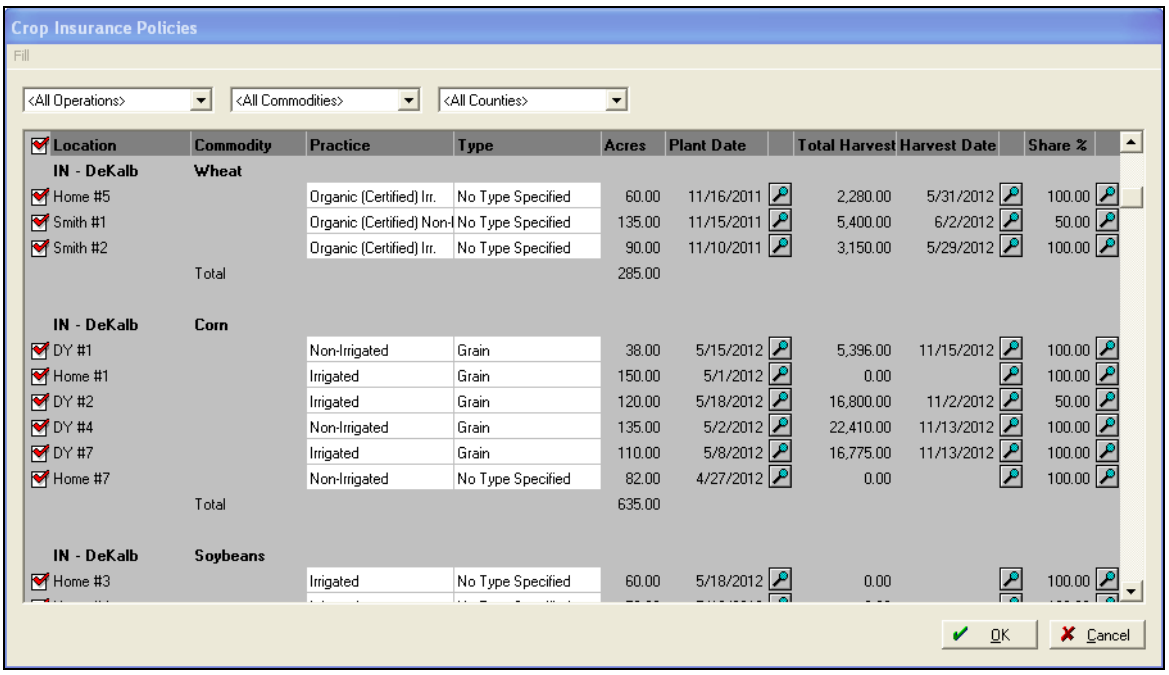
Linking crops

If you have crops within the software that do not have the same name as is used in the Crop Insurance, you are prompted to link the crop listed in the software to the description in the *Crop Insurance Resources* list. To do this, select the crop in the *Desktop Resources* list, select the matching crop in the *Crop Insurance Resources* list, click Link and then click **OK**.



Changing Practices and Types

The *Crop Insurance Policies* screen lists all the fields within the selected harvest year that have a county and state assigned to the field, a crop commodity with an RMA identity, and a crop enterprise with a Practice and Type assigned.

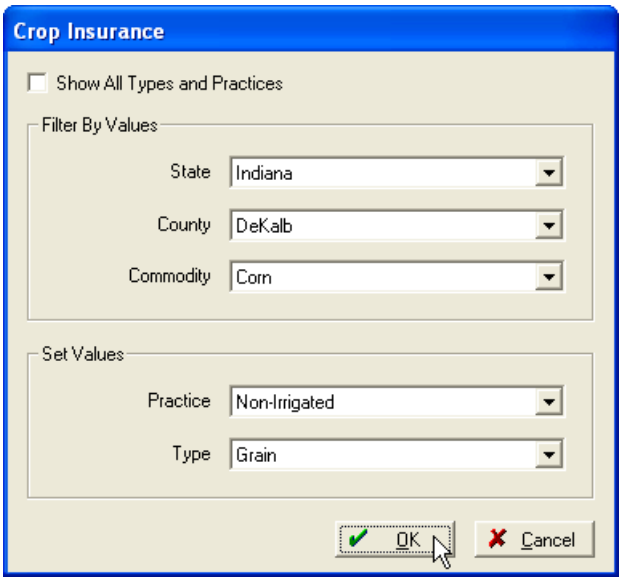

Crop Insurance Policies
Fill
<All Operations>
<All Commodities>
<All Counties>
Location | Commodity | Practice | Type | Acres | Plant Date | Total Harvest | Harvest Date | Share %
IN - DeKalb Wheat
Home #5 | Organic (Certified) Irr. | No Type Specified | 60.00 | 11/16/2011 | 2,280.00 | 5/31/2012 | 100.00
Smith #1 | Organic (Certified) Non-I | No Type Specified | 135.00 | 11/15/2011 | 5,400.00 | 6/2/2012 | 50.00
Smith #2 | Organic (Certified) Irr. | No Type Specified | 90.00 | 11/10/2011 | 3,150.00 | 5/29/2012 | 100.00
Total 285.00
IN - DeKalb Corn
DY #1 | Non-Irrigated | Grain | 38.00 | 5/15/2012 | 5,396.00 | 11/15/2012 | 100.00
Home #1 | Irrigated | Grain | 150.00 | 5/1/2012 | 0.00 | 100.00
DY #2 | Irrigated | Grain | 120.00 | 5/18/2012 | 16,800.00 | 11/2/2012 | 50.00
DY #4 | Non-Irrigated | Grain | 135.00 | 5/2/2012 | 22,410.00 | 11/13/2012 | 100.00
DY #7 | Irrigated | Grain | 110.00 | 5/8/2012 | 16,775.00 | 11/13/2012 | 100.00
Home #7 | Non-Irrigated | No Type Specified | 82.00 | 4/27/2012 | 0.00 | 100.00
Total 635.00
IN - DeKalb Soybeans
Home #3 | Irrigated | No Type Specified | 60.00 | 5/18/2012 | 0.00 | 100.00
OK
Cancel

You can assign or change Practices and Types on individual fields.

If you want to assign the Practice and Type to all of the fields with a selected Commodity, State, or County:

1. Select *Fill / Fill All Values*.

2. In the *Crop Insurance* screen, select the *Show All Types and Practices* checkbox to show all types and practices, not just the ones associated with the state and county.



3. Select the required *Practice* and *Type* from the drop-down lists and then click **OK**.

Filtering listed fields

1. Use the *All Operations, All Commodities*, or *All Counties* drop-down lists to filter the listed fields.

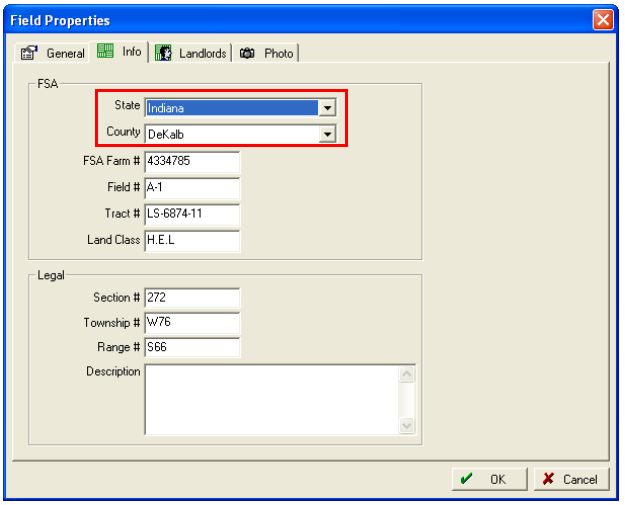
   The fields that are marked with a check sign contain the information that will be submitted to Great American Insurance.

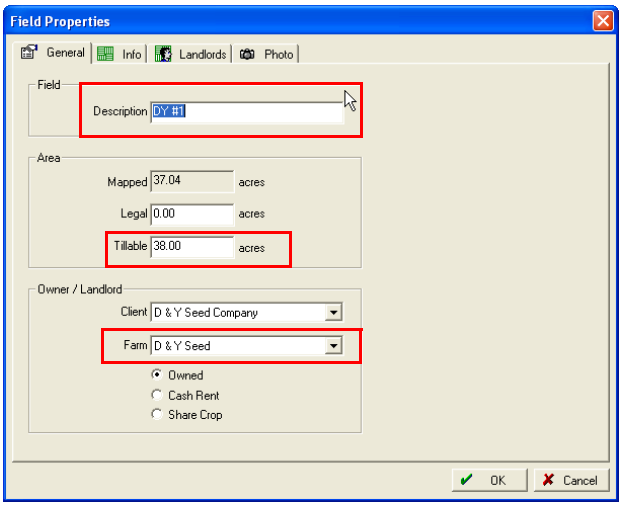
2. Click **OK** to complete the submission process.

Submitted data

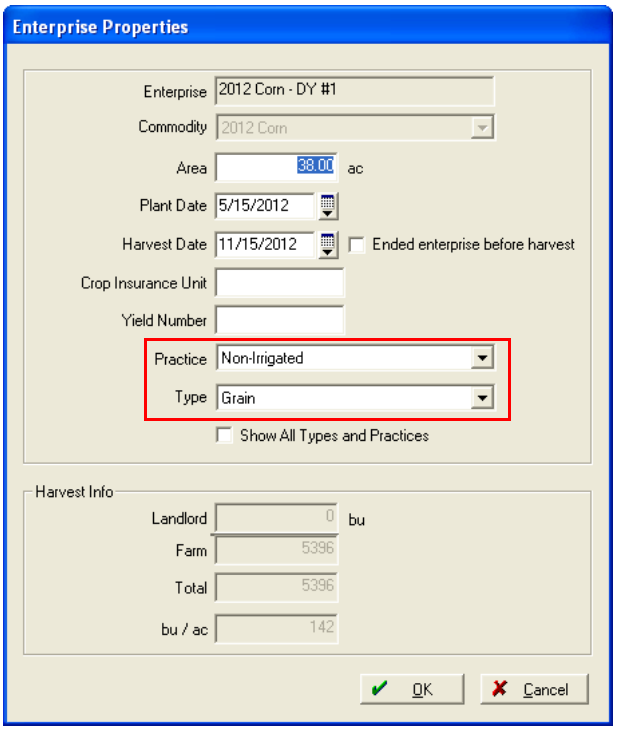
Once the *Submit Insurance Data* process is completed, Great American Insurance will have the following information for each selected field:

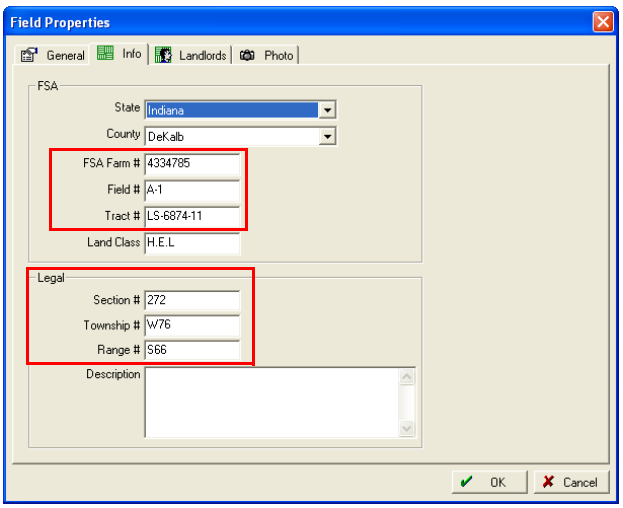
Field	Required?	Description
Crop Year	Yes	Enterprise year for the particular crop assigned to the field.
State	Yes	State set up in the *Field Properties* screen.
County	Yes	County set up in the *Field Properties* screen.
Field Name	Yes	Field name for each field.
Acres	No	Acres entered into the *Tillable Acres* field in the *Field Properties* screen. This data item will be exported to the XML Export option only-it is not submitted to Great American Insurance.
Farm Name	Yes	The name of the farm each field is assigned to.





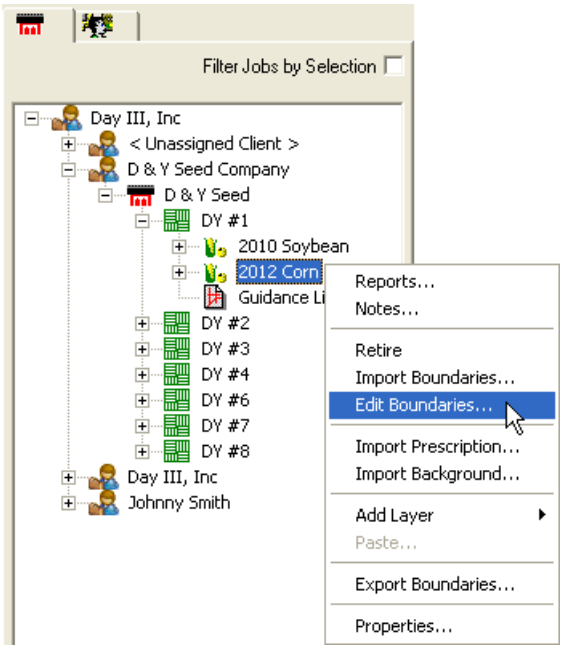
Field	Required?	Description
RMA Practice	Yes	Practice for this enterprise selected in the *Enterprise Properties* screen.
RMA Type	Yes	Type for this enterprise selected in the *Enterprise Properties* screen.
FSA Farm	No	FSA Farm Number entered in the *Field Properties* screen.
FSA Field	No	FSA Field Number entered in the *Field Properties* screen.
FSA Tract	No	FSA Tract Number entered in the *Field Properties* screen.
Legal Section	No	Legal Section Number entered in the *Field Properties* screen.
Legal Township	No	Legal Township Number entered in the *Field Properties* screen.
Legal Range	No	Legal Range Number entered in the *Field Properties* screen.



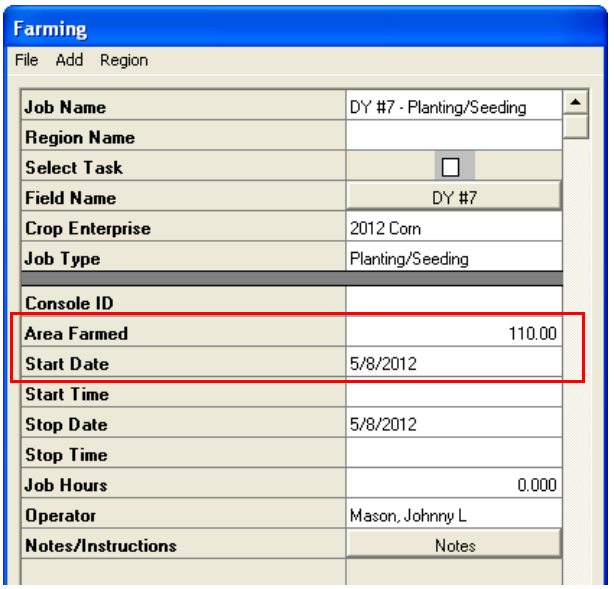


Great American Insurance will receive the enterprise boundary for the crop. To verify the enterprise

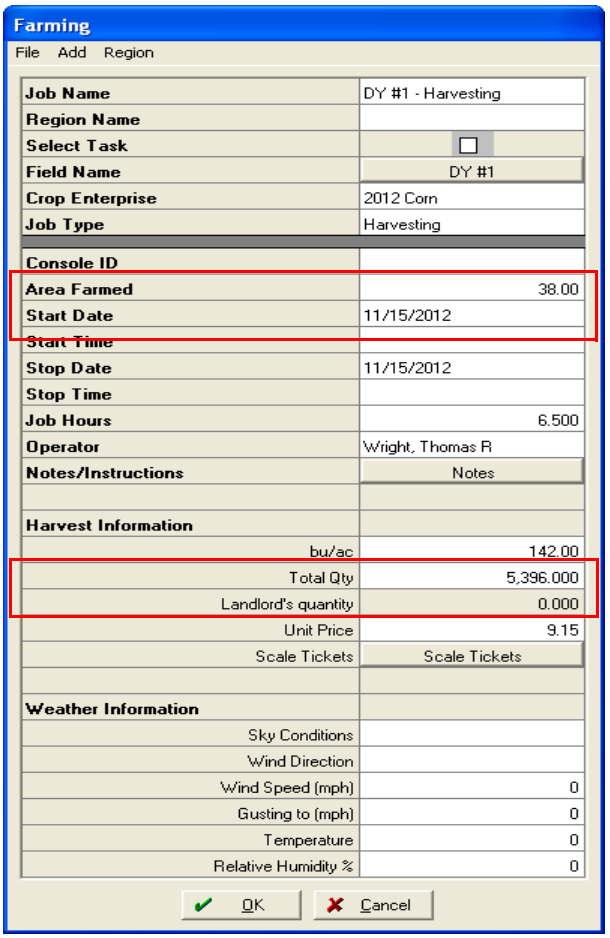
boundary, right-click the Enterprise and then select *Edit Boundaries*.



Field	Required?	Description
Planting Date (Start Date)	Yes	Date crop was planted. This date comes from any Planting or Seeding farming operations entered into the program for the particular field and enterprise. ***Note –*** *If there is more than one Plant Date each plant date and the planted acres are included.*
Planting Acres (Area Farmed)	Yes	The acres actually planted. This information comes from any Planting or Seeding farming operations entered into the program for the particular field and enterprise. ***Note –*** *Verify that the Planting Acres or Area Farmed on the planting operation are correct before submitting the data to Great American Insurance. Make changes as necessary as these are the acres Great American Insurance looks for.*



Field	Required?	Description
Harvest Date (Start Date)	No	This date comes from any Harvest farming operations entered into the program for the particular field and enterprise. ***Note –*** *If there is more than one Harvest Date, each harvest date and the planted acres are included.*
Harvest Acres (Area Farmed)	No	Acres Harvested. This information comes from the Harvest farming operations entered into the program for this field and enterprise. ***Note –*** *Verify that the Planting Acres or Area Farmed on the planting operation are correct before submitting the data to Great American Insurance. Make changes as necessary as these are the acres Great American Insurance looks for*
Quantity (Total Quantity)	No	Total of harvest for this field. This information comes from the Harvest farming operations entered into the program for the particular field and enterprise.
Harvest Share (Landlord Quantity)	No	The amount of harvest share if there is a landlord share for this field. The share amount is set up in the *Landlord* tab of the *Field Properties* screen.



Reports

You can print reports for all of your machinery, field enterprises, and supply usage, including:

- ***Equipment reports***: Enterprise Statement, Fleet Management, Notation Report, Usage Reports (Averages, Job Details, and Totals)
- ***Field Reports***: Field Equipment Usage, Field Enterprise Statement, Planning Summary by Crop, and Planning Summary Total
- ***Fertilizer and Supply Usage Reports***
- ***Personnel Reports***

Reports can be printed from the *Reports* dialog or from the *Jobs* tab and can be saved as Word documents, Excel spreadsheets, or PDF documents.

Printing Job reports

These reports are for planned and completed jobs:

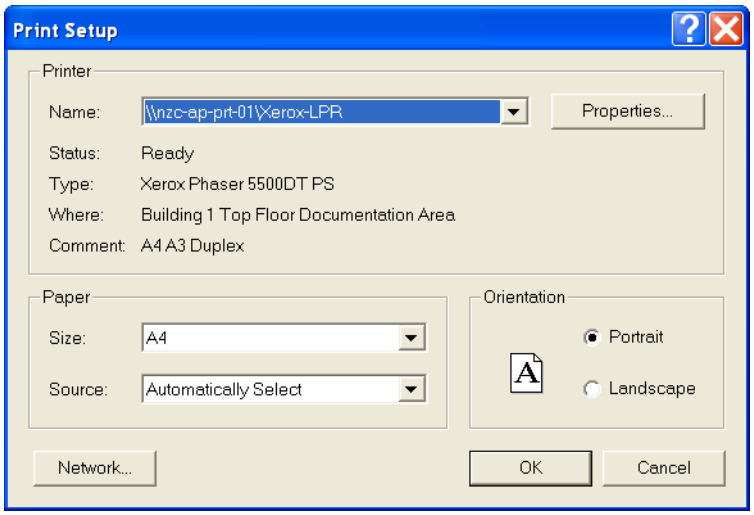
- The job report for a planned job is a work order to give to employees assigned to a job.
- The job report for a completed job is a summary of the details of the farming operation that has been completed.

To print report(s):

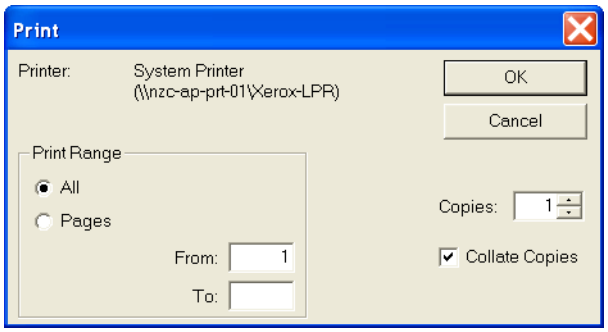
1. In the *Jobs* tab, scroll to the job or use the sorting and filtering options to find the required job. See Finding a job in the Jobs tab, page 79.
2. Right-click the job and then select *Print*.

   The preview report that appears lists all job elements.

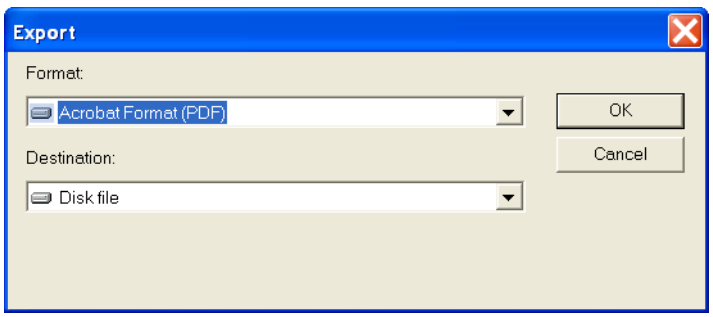
3. From the report preview, you can:
   - Click the Print Setup icon to set the printer properties.



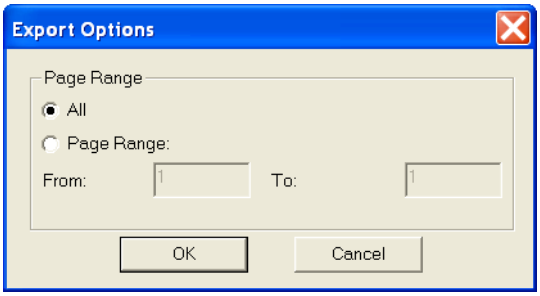
   - Click the Print icon to print the report. In the *Print* dialog, you can select the pages and number of copies.



   - Click the Export icon to export the report and save a copy.



a. In the *Export* dialog, select the *Format* and *Destination* and then click **OK.**



b. In the *Export Options* dialog, select the page range that you want to export, or click **OK** to export the whole report.

c. In the *Choose Export File* dialog, select the folder or removable drive where you want to save the report, enter a name for the file in *File name* and then click **Save**.

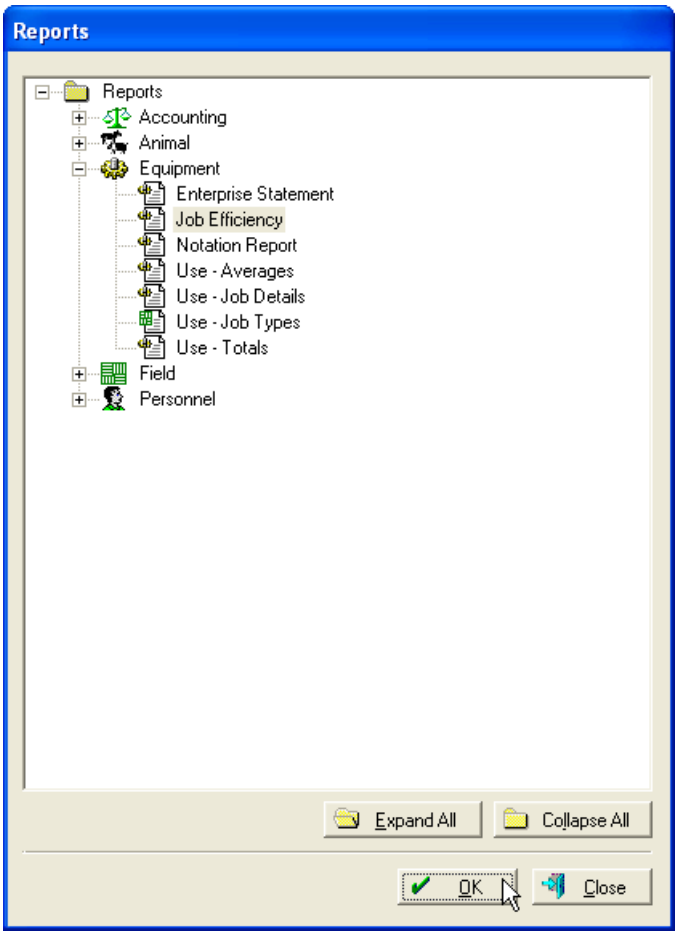
The report is exported to the specified location where it can be printed, copied, or emailed.

Printing a Job Efficiency report

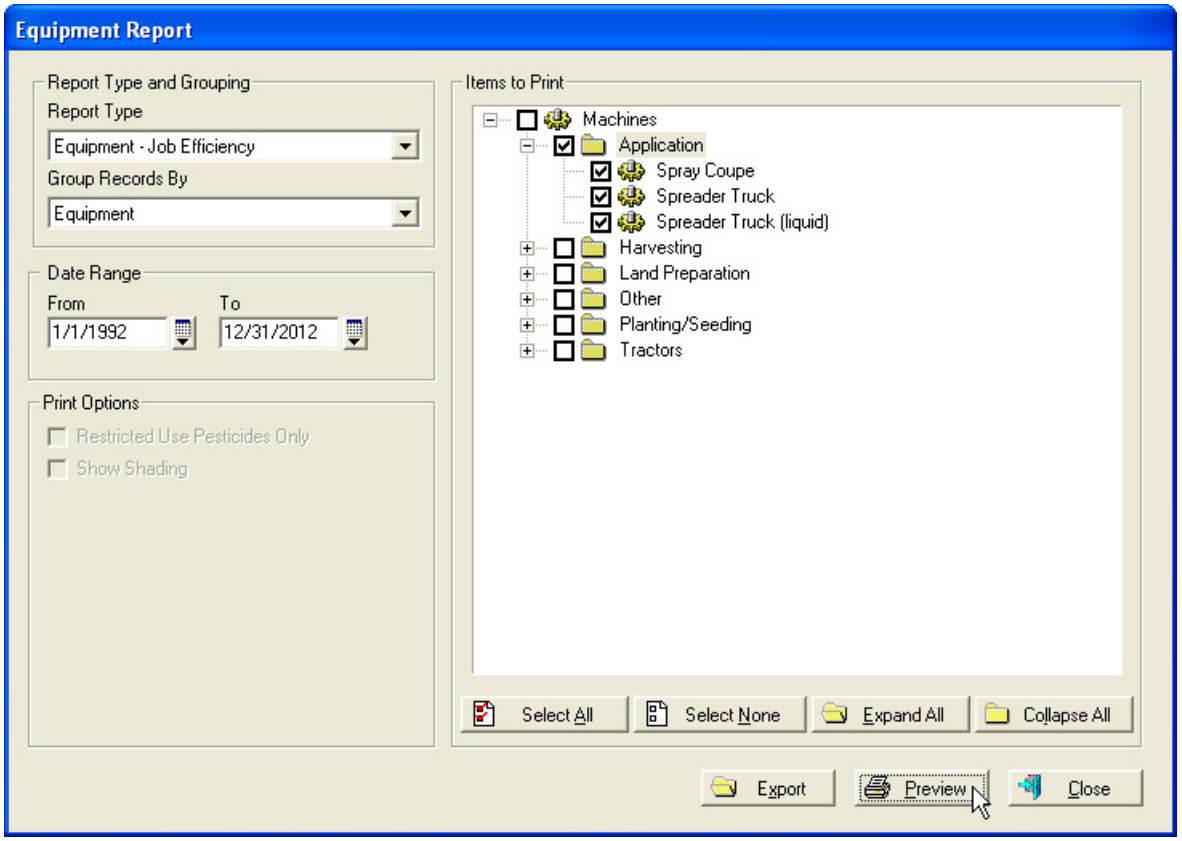
You can print reports for all of your machinery, field enterprises, and supply usage.

1. Do one of the following:
   - Select *Reports / All Reports.*
   - Click the report icon .
   - In the *Farm* or *Inputs* tab, right-click an item and then select *Reports*.
2. Click **+** beside the *Equipment* category.

3. Select *Job Efficiency* and then click **OK**.



4. Select the required report and then click **OK**.



a. Select each item that you want to include in the report. or click **Select All** to select all items.

b. Enter a *Date Range*.

c. Click **Preview**.

The print preview window shows the first page of the report. To view other pages, click the Next Page icon **>** or Previous Page icon **<**.

Equipment Job Efficiency Report

Day III, Inc

1/1/1992 - 12/31/2012

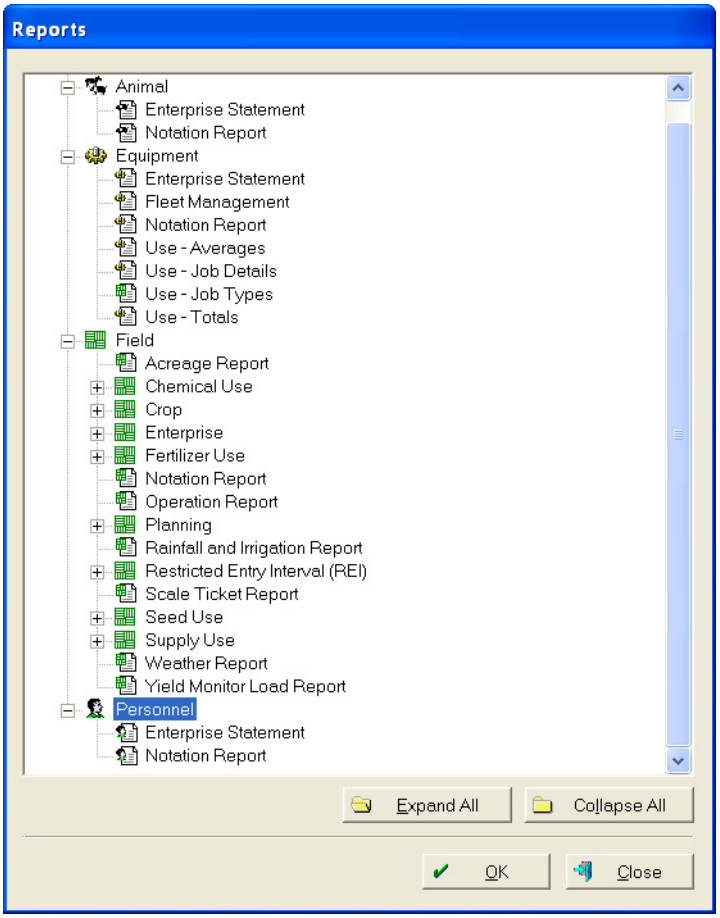
Date	Vehicle	Implement	Operator	Field	Field Area	Job Area	Job Hours	Area / Hr	Harvest Qty	Harvest Qty / Hr
Spreader Truck										
3/7/2012		Spreader Truck	Mason, Johnny L	DY #1	38.00	38.00	6.50	5.85		
				Total Spreader Truck:		**38.00**	**6.50**	**5.85**		
Spreader Truck (liquid)										
4/24/2012		Spreader Truck (liquid)	Mason, Johnny L	DY #1	38.00	38.00	5.75	6.61		
				Total Spreader Truck (liquid):		**38.00**	**5.75**	**6.61**		
Spray Coupe										
5/31/2010	Spray Coupe			DY #6	65.00	67.45	2.15	31.42		
6/7/2010	Spray Coupe			DY #4	135.00	120.49	1.35	89.25		
6/7/2010	Spray Coupe			DY #8	25.00	24.42	0.18	134.92		
6/8/2010	Spray Coupe			DY #3	150.00	68.69	0.49	139.05		
6/11/2010	Spray Coupe			DY #1	38.00	39.27	1.05	37.44		
6/11/2010	Spray Coupe			DY #2	120.00	121.00	1.57	76.92		
6/11/2010	Spray Coupe			DY #7	110.00	73.59	0.78	93.86		
2/29/2012	Spray Coupe		Mason, Johnny L	Smith #1	0.00	135.00	6.50	20.77		
				Total Spray Coupe:		**649.91**	**14.08**	**46.16**		
				Grand Totals:		**725.91**	**26.33**	**27.31**		

Printing Field, Equipment, and Supply usage reports

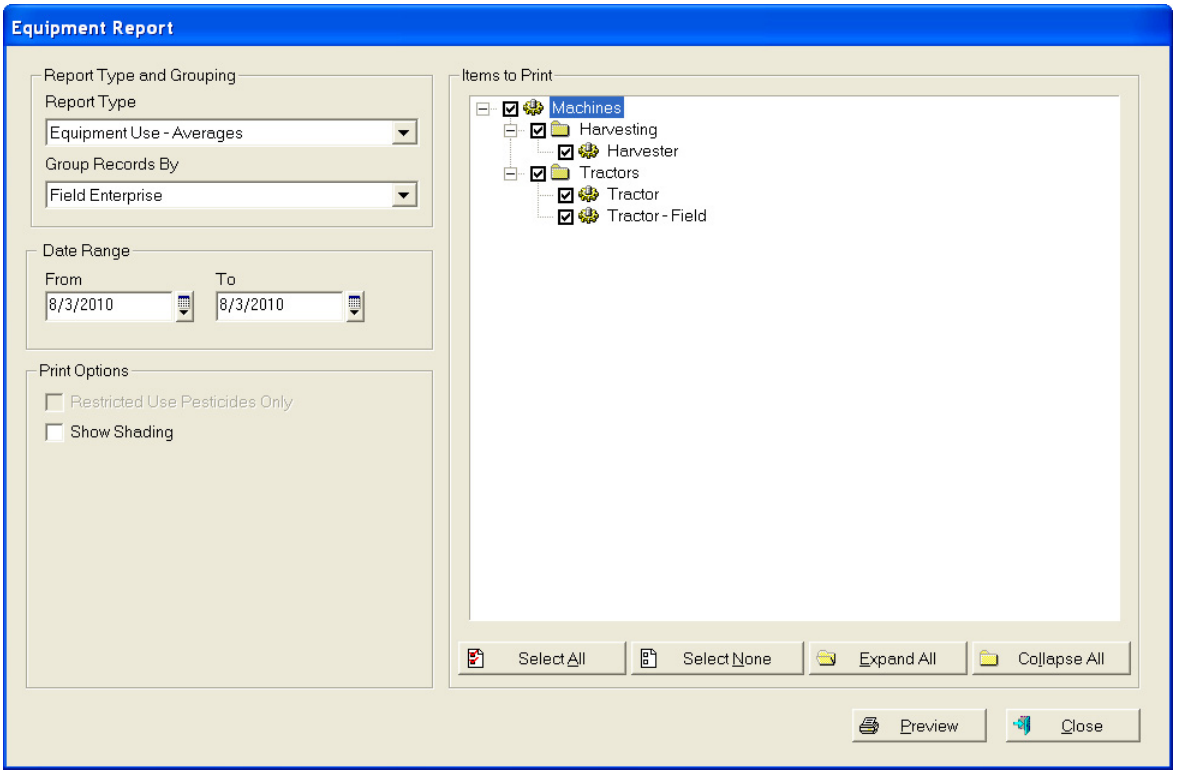
You can print reports for all of your machinery, field enterprises, and supply usage

1. Do one of the following:
   - Select *Reports / All Reports.*
   - Click the report icon .
   - In the *Farm* or *Inputs* tab, right-click an item and then select *Reports*.

2. Select the report you want to print. To do this, click **+** beside each category or click **Expand All**.



3. Select the required report and then click **OK**.



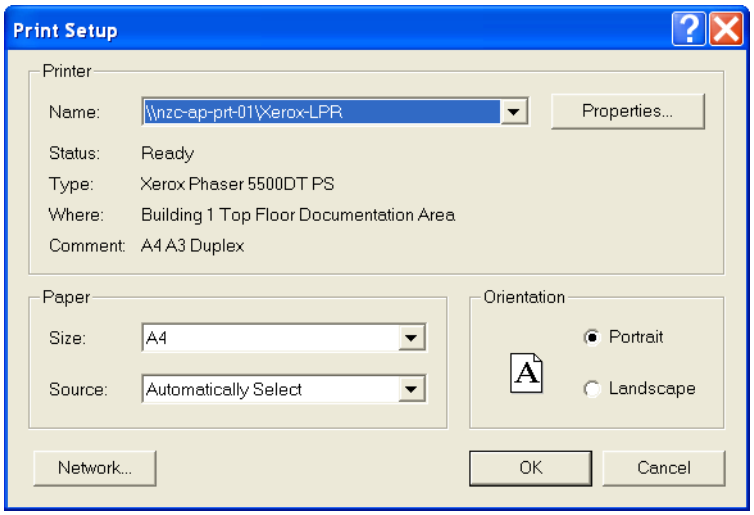
a. Select each item that you want to include in the report. or click **Select All** to select all items.

b. Enter a *Date Range*.

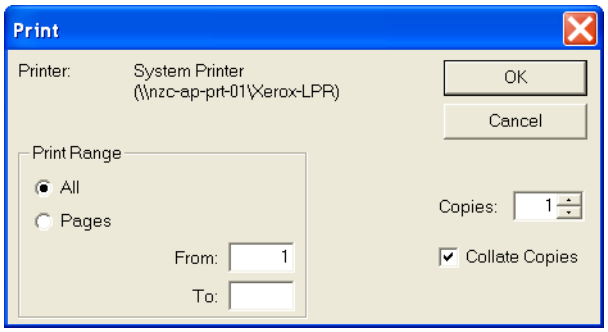
c. Click **Preview**.

   The print preview window shows the first page of the report. To view other pages, click the Next Page icon **>** or Previous Page icon **<**.

4. From the report preview, you can:
   - Click the Print setup icon to set the printer properties.

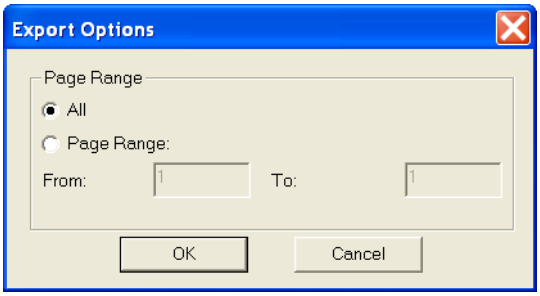


   - Click the Print icon to print the report. In the *Print* dialog, you can select the pages and number of copies.



   - Click the Export icon to export the report and save a copy.

a. In the *Export* dialog, select the *Format* and *Destination* and then click **OK.**



b. In the *Export Options* dialog, select the page range that you want to export, or click **OK** to export the whole report.

c. In the *Choose Export File* dialog, select the folder or removable drive where you want to save the report, enter a name for the file in *File name* and then click **Save**.

The report is exported to the specified location where it can be printed, copied, or emailed.

CHAPTER 4

Mapping Software

In this chapter:

- Toolbars
- Downloading road and waterway data
- Calibrating and geo-referencing images without GPS data
- Drawing and importing boundaries
- Viewing field boundary maps
- Field boundary display: View changes
- Exporting field boundary maps
- Batch Shape File export
- Assigning colors to fields by crop enterprise
- Assigning patterns
- Editing Enterprise maps
- Setting up and selecting layer attributes
- Creating Guidance / Feature layers
- Multi Swath Lines management
- Working with the Buffer tool
- Working with yield and as-applied maps
- Creating polygon variety maps
- Yield Variety report
- Split Planting maps
- Editing legends
- The Harvest filter
- Working with grids and contour maps
- Animating layers
- The Transparency slider
- Soil Type maps
- Soil samples
- Copying a layer to a different Farm or Field
- Creating VRA maps
- Printing maps

The Farm Works Mapping software provides unlimited layers for yield mapping, application logs, soil types, soil sample results, tile lines, and more.

If you import yield or application data into the Farm Works Mapping software, it easily converts this spatial data into a field record.

See also, Chapter 6, Office Sync.

Toolbars

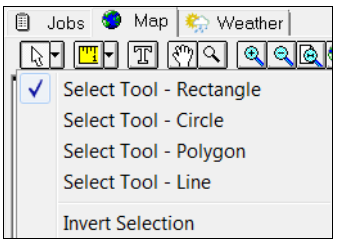
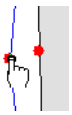
Toolbars contain icons (sometimes know as buttons) that enable you to perform many functions with one click. For a description of these toolbars, see Toolbars, page 18.

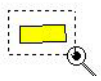
- Job-Resource
- Map

In addition, the Farm Works Mapping software contains the Map-Editing toolbar.

This toolbar appears when you right-click a Field name in the *Farm* tab and then select *Edit Boundaries* or when you click the Edit Layer icon. Use the drawing tools to draw field boundaries.

Depending on the types of maps showing in the *Map* tab, the toolbar contains up to 23 icons.

Icon/Tool	Action
Select 	Select objects in the *Map* tab. This can be used to select items in a rectangle, circle, polygon, or line by clicking the down arrow. Use Invert Selection to reverse the items that are selected on the map.
Edit Node 	Move the node points on a boundary or area / polygon map as well as for a line map to adjust the boundary/area/polygon/line shape: Not available for point maps. • Click-and-drag a node to move it. • Double-click a line segment to create a new node. • Right-click a node and then select *Delete* to remove a node. The size of the selected area is shown, and changes as you modify the polygon.
Include Polygon	Draw or add to a field boundary or area / polygon: Not available for point maps.
Exclude Polygon	Exclude areas such as ponds or ditches from a field boundary or area/polygon: Not available for point maps.
Split Polygon	Split a field boundary or area / polygon into separate area / polygon: Not available for point maps.
Measure	Measure objects in *Map*. Click where you want to start measuring and click again to start another segment. Total length and distance in the X and Y directions appear in the bottom right corner of the screen. The X and Y values are of the last segment only. Right click to stop measuring.

Icon/Tool	Action
Buffer	Select a part or all of an area or field boundary. You then enter a distance or a size of an area; the software splits the area based on your settings. This option is useful when creating setbacks, refuge boundaries, or terraces.
Endpoint	Forces the cursor to snap directly to the end of a line segment.
Midpoint	Forces the cursor to snap to the exact center of a line segment.
Grid Snap	Lays out a grid on the screen and forces the cursor to snap to the corner of each grid while drawing. Right-click this icon to change the grid size.
Horizontal	Forces the cursor to move perfectly horizontal while drawing.
Vertical	Forces the cursor to move perfectly vertical while drawing.
Pan	Click this icon and then click-and-drag on the map to move the map across the screen.
Zoom 	Click to zoom in; right-click to zoom out. The map centers where you click. You can also click-and-drag to zoom into a specifically sized area.
Zoom In	Zoom in without re-centering the map
Zoom Out	Zoom out without re-centering the map.
Zoom Layer	Zoom the active layer into view. The active layer is the one at the top of *Displayed Layers*.
Zoom All	Zoom to the extent of all visible layers.
Import shapefile	Import the contents of a file onto the current layer, such as a field boundary.
Auto Draw	Automatically draw field boundaries based on imported point data (such as a yield map) for the field.
Display Options	Change colors and appearance of objects; add labels to a layer.
Background Imagery	Display the Roads and Streets and background imagery for the world. You need an Internet connection to be able to use the background imagery.
Save **Save**	Save the changes you have made to a map—you remain in map editing mode.
Save and Close **Save and Close**	Save the changes you have made to a map and return to the *Map* tab.
Cancel **Cancel**	Return to the *Map* tab without saving any changes.

Downloading road and waterway data

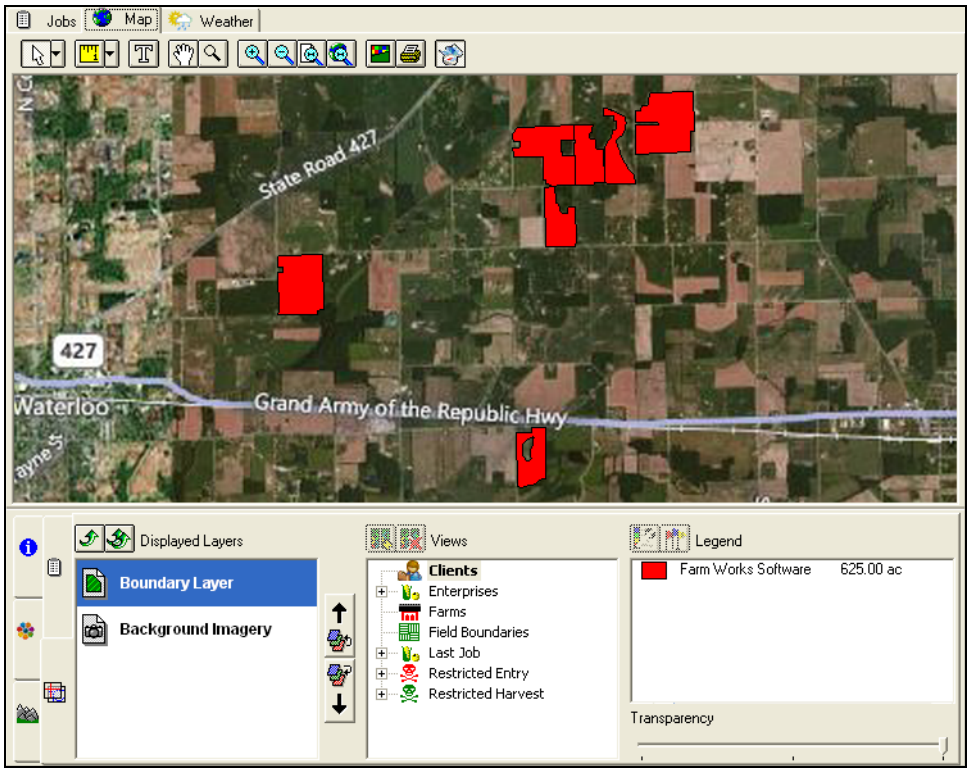
Importing roads and waterways makes it easier to know where to draw your fields and it adds GPS coordinates to the maps that you draw by hand.

You can use the Background Imagery icon to view roads and aerial imagery. Many roads and streets worldwide can be shown, with labels.

North American Roads and Waterways can also be downloaded as line data; other types of aerial imagery are also available. For more information, refer to http://www.farmworks.com/support/faqs/index.php.

Click the Background Imagery icon .

The roads for the area appear.

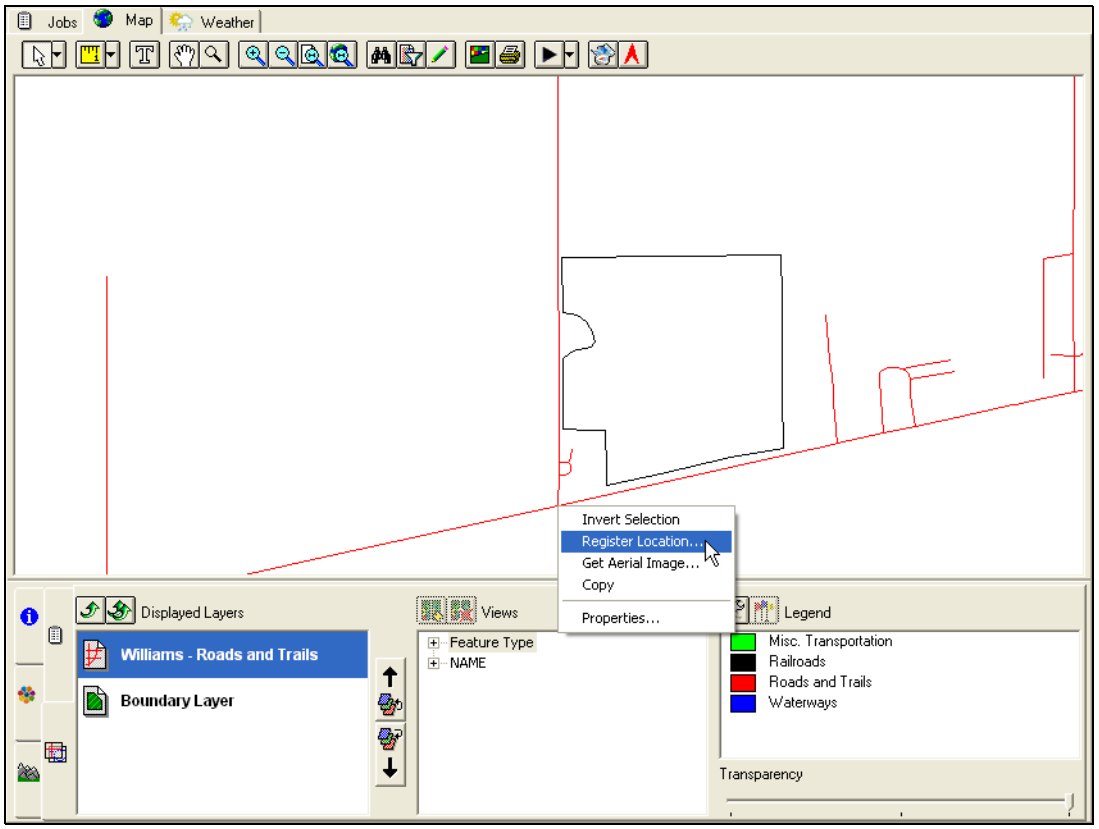


Calibrating and geo-referencing images without GPS data

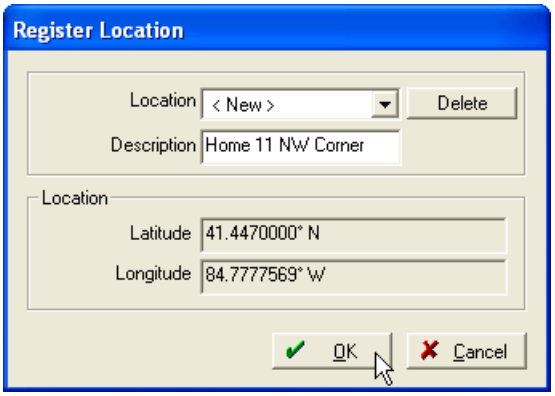
Some images (for example, scanned FSA maps) do not automatically have associated geo-referencing data. The software has a calibration feature that allows you to assign three GPS coordinates to these images so that they line up with other geo-referenced maps (such as road and waterway maps). To geo-reference an image you must register GPS points, calibrate the image, and then load the image into the software).

Registering GPS points

1. Obtain three GPS coordinates that are on the image you are working with—the easiest way to do this is to use road and waterway data downloaded into the Farm Works Mapping software.
2. Display the roads and waterways in the *Map* tab.
3. Right-click the first point that you can locate on the image and then select *Register Location*.



4. The coordinates appear in the *Registration Points* dialog. Enter a *Description* that defines the location, for example, **Home 11 NW Corner,** and then click **OK**.



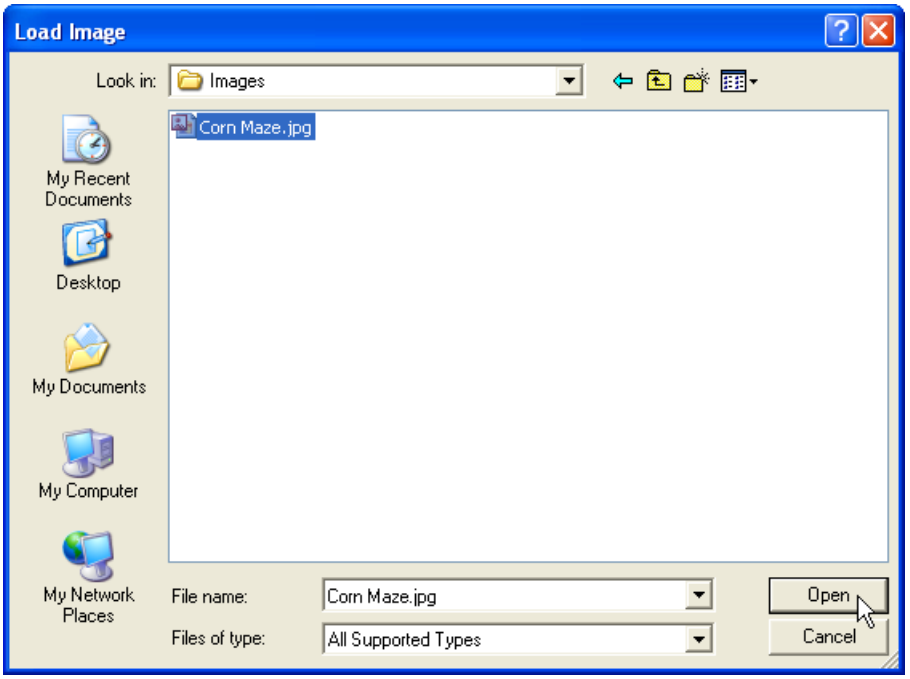
5. Repeat Step 3 through Step 4 to record two additional points.

Note – *Calibration works best when the three points are not in a straight line and are spread out on the map. It is best if the three points form a right-angled triangle. The closer to a right-angled triangle, the more accurate the geo-referencing/calibration will be.*

Calibrating the image

1. Select *Start / Programs / Farm Works Software / Calibrate* or *Start /All Programs / Farm Works Software / Calibrate.*
2. Click **Open**. The *Load Image* dialog appears.

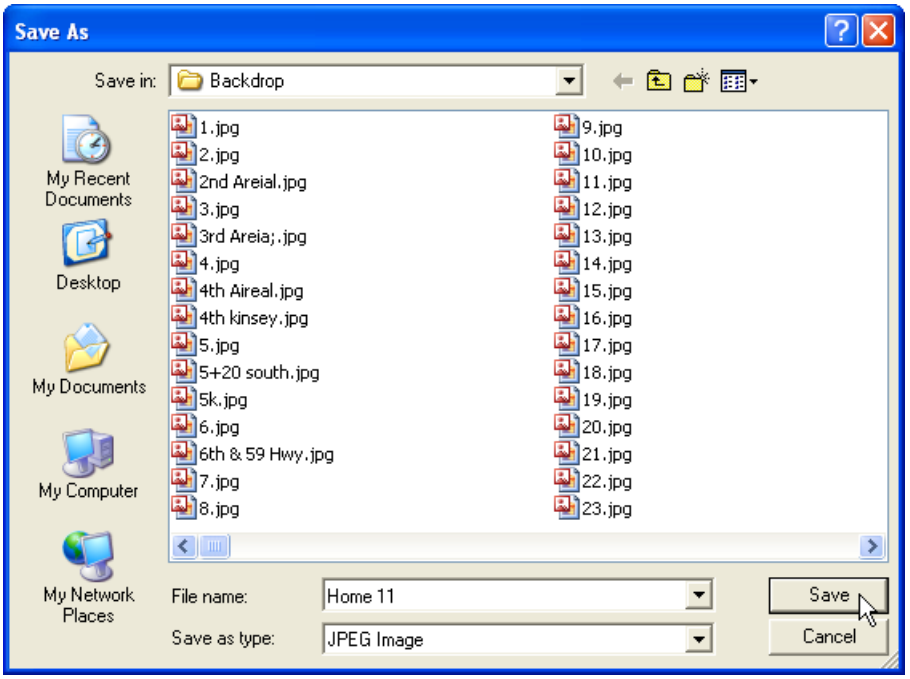
3. Navigate to the location where you saved the image to be calibrated, select it and then click **Open** to load it.



4. To calibrate the image, zoom in on the area where the first point was registered (as described in the previous section) and then click the Register Points icon .
5. Locate and then click the first point on the map and then do one of the following:
   - Select the point you created earlier (for example, *Home 11 NW Corner)* from the *Registered Points* drop-down list.
   - Leave the *Registered Points* field empty and enter the coordinates for the point. You would need to do this if you manually identified a GPS coordinate using a GPS receiver.
6. Click **OK**.
7. Repeat Step 1 through Step 6 to record the next two points. When the third point is recorded, the calibration process starts.

   As soon as the calibration process is complete, the map should be oriented correctly. If the map is not calibrated correctly, repeat Step 5 through Step 6 to recalibrate or select new registration points. See Registering GPS points, page 123.
8. Once your map is calibrated, click the Save As icon .

9. The *Save As* dialog appears. Enter a name for the file and then click **Save.** By default the program saves the file to C:\Farmproj\Images\Backdrop folder/directory.



10. Select *File / Exit*.

Loading the image

1. Exit the Calibrate program and return to the Farm Works Mapping software.
2. Select a Client, Farm, or Field name and then select *Import Background*.
3. Locate the calibrated image in the C:\Farmproj\Images\Backdrop folder and click **Open**.

   The imported image is automatically displayed on the *Map* tab in the correct location.

Drawing and importing boundaries

To add field boundary maps, do one of the following:

- Draw them using the drawing and the free satellite imagery from the Internet. You can then trace outlines of your fields to draw more accurate boundaries.
- Automatically draw them using imported yield data.
- Import boundaries from third-party software (such as ArcView Shape File or .fgp file). To do this, right-click the name of the field and select *Import Boundaries*.
- Read in other precision farming data using the *Read Job Data* option. See Importing Job data, page 186.
- Synchronize boundaries collected with the Mobile software. See Chapter 7, Synchronizing Data with the Mobile Software.

After you draw or import field boundary maps, you can add labels with the names of the fields and change the colors of the maps to suit your needs. To easily view the field maps, select the names of the fields in the *Farm* tab: This shows every field boundary map for that farm.

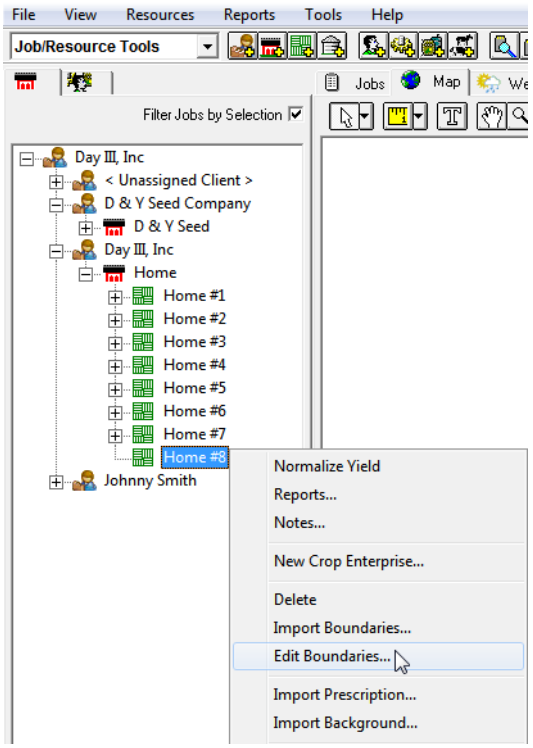
Drawing field boundary maps

If you draw the fields by hand, you can use the roads and waterways, and imported background images to draw the fields as accurately as possible. If using yield data, you can use the Auto Draw feature to draw the field-boundary map for you. See Automatically drawing fields from yield maps, page 132.

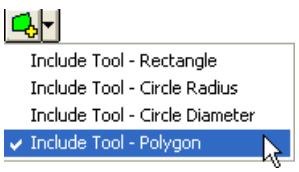
Drawing a field boundary map using the drawing tools

1. Select the *Map* tab to view the Map window and then select the *Layers* tab ***below*** the *Map* window to view *Displayed Layers*.
2. Click the Background Imagery icon to display roads and background imagery.
3. Use the zoom tools to find your field in the background image.
4. Right-click the field name in the *Farm* tab and then select *Edit Boundaries*.

Note – *If the Field is not in the Farm tab, see Chapter 3, Field Record Keeping for instructions on how to add the field.*



5. On the *Map-Editing* toolbar, click the Include Tool - Polygon icon, to view the options—select Include Tool - Rectangle, Include Tool - Circle Radius, Include Tool - Circle Diameter, or Include Tool - Polygon. For a description of tools, see the Toolbars, page 120.



If you use the Rectangle or Circle tools, click-and-drag on the map where you want the boundary to be. When you release the mouse button, the polygon becomes complete. The Circle tool places the center of the circle where you click the mouse.

6. To draw a field boundary with Include Tool - Polygon:

   a. Click at one corner of the field. Move the cursor around the field and click to add as many nodes as needed. To create a curved effect, place the nodes closer together.

   b. Move the Transparency slider to the left for a better view of the image through the polygon drawing.

   c. To delete the last node added, right-click and then select *Undo*.

      To cancel the polygon, right-click and then select *Cancel*.

d. Continue to add nodes until the entire field boundary is mapped.

e. To complete the polygon, right-click, select *Finish* and then click **Save and Close** to exit editing and return to the *Map* tab.

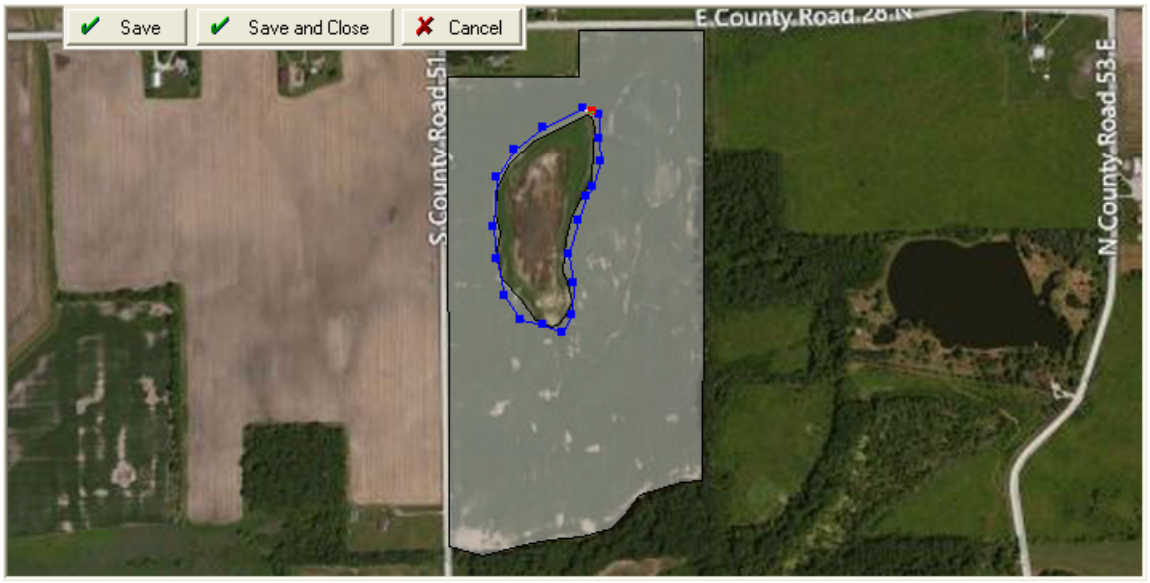
7. If required, use the Node Edit tool to edit the field boundary. For more information, see Toolbars, page 120.

Use one or more of the following to change a field boundary. After you make changes, click **Save and Close**.

- Use the Exclude Polygon tool to remove any part of the field that is inside the boundary, for example, waterways, ponds, trees, and so on in the middle of a field.

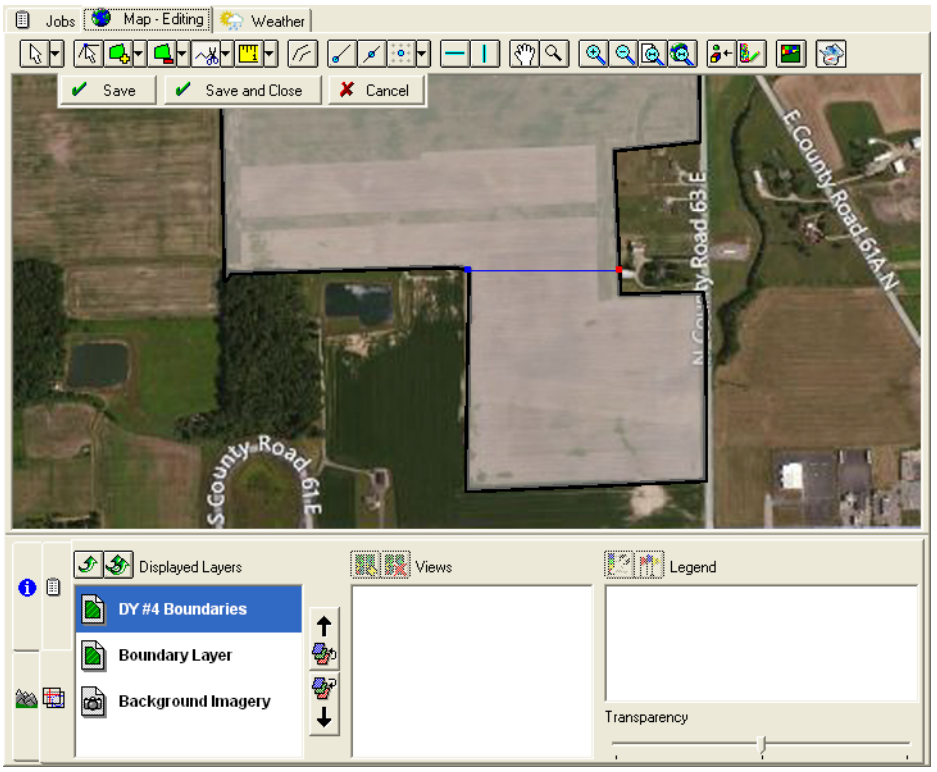
  Exclude tools work in the same manner as Include tools; they remove portions of the field, instead of adding them.

- To re-include an excluded area, select the area with the Include tool.



- Use the Split Polygon tool to split the existing field boundary into separate polygons.

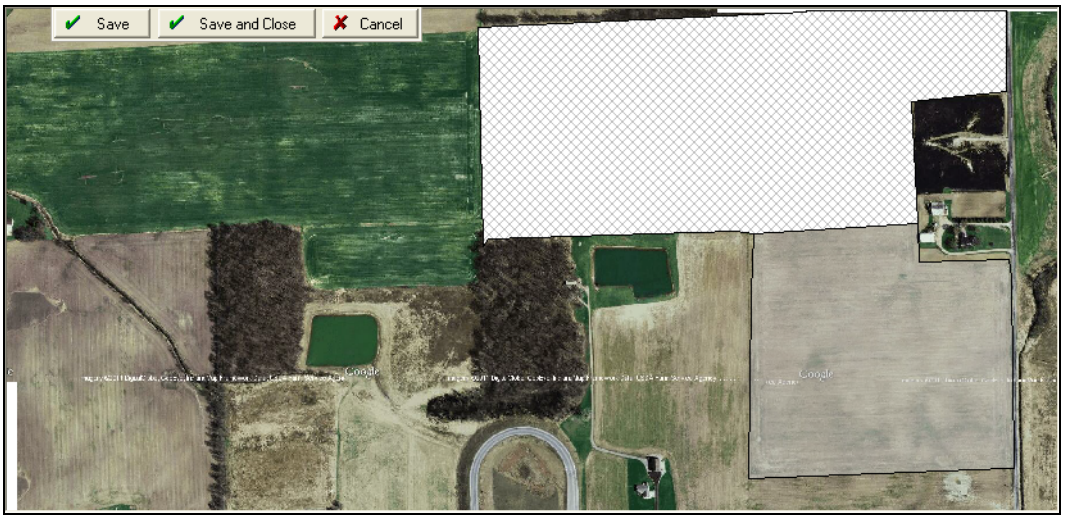
  For example, use the Split Line tool to split every line segment that crosses the polygon into two polygons. In a simple split situation, it is easiest to use the Line option. You can also split using the rectangle, circle, and polygon split tools.



To remove a section that was split from the original field and paste to another field:

a. From the *Farm* tab, right-click the split field and then select *Edit Boundaries*.

b. On the *Map* tab, left-click the area that is to be split off and copied to another field. The portion to be split off will have a hatch-mark appearance.



c. Right-click the section of the field that will be assigned to the other field and then select *Copy*.

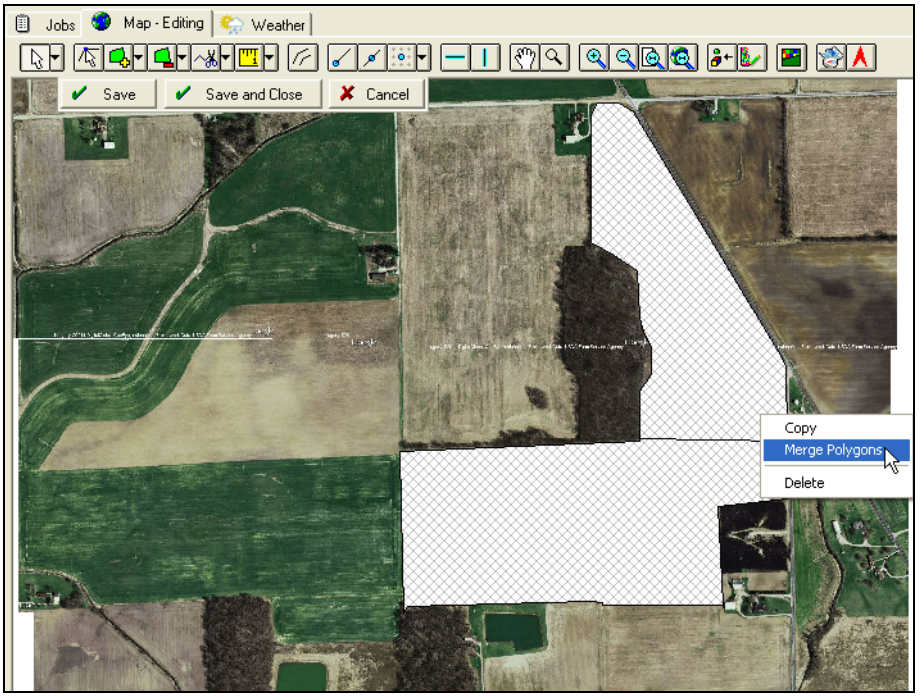
d. Right-click the same section of the filed and then select *Delete*.

e. Click **Save and Close** to exit map editing**.**

f. From the *Farm* tab, right-click the field to which you want to add the split portion and then select *Edit Boundaries*.

g. Right-click outside the field boundaries and then select *Paste Addition*.

h. To remove the lines that appear between the original boundary and the addition, hold down the Shift key and then click each section. Once both sections are highlighted, right-click and then select *Merge Polygons*.



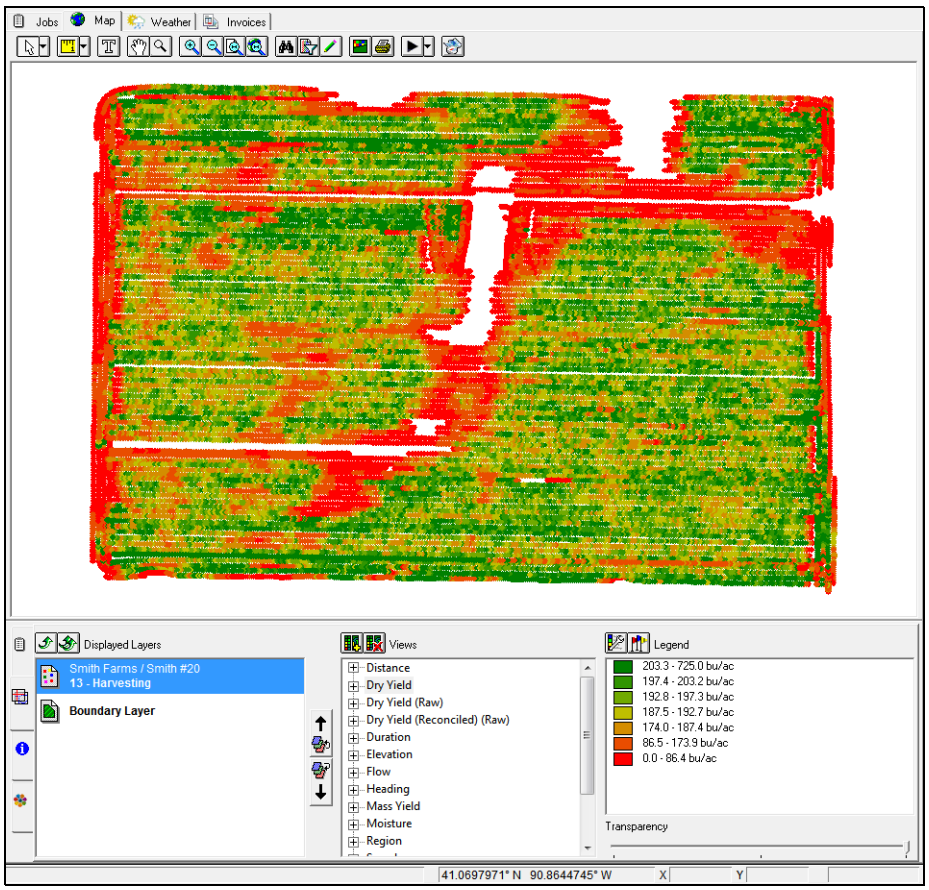
i. Click **Save and Close**.

Automatically drawing fields from yield maps

If point maps, such as yield, planting, or spraying, are imported, the software can use that data to automatically draw field boundaries. This saves time, and the resulting maps are generally more accurate than those drawn by hand.

1. Select the *Map* tab.

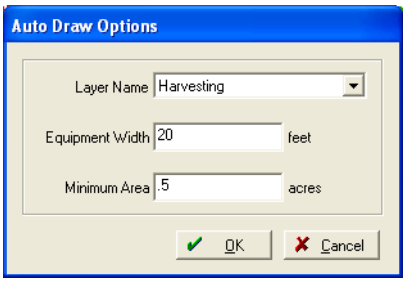
2. From the *Farm* tab tree view, double-click the job that includes the point data (yield or another job) from which to automatically draw the field-boundary map. The harvest map appears on the *Map* tab.



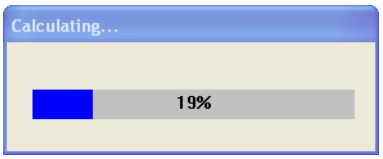
3. Right-click the icon for the field that you want to draw a boundary for and then select *Edit Boundaries*. The *Map-Editing* toolbar appears.

4. Click the Auto Draw icon on the toolbar above the displayed map. In the *Layers* dialog, select the layer to draw the boundary from. This should automatically default to the layer that is displayed.

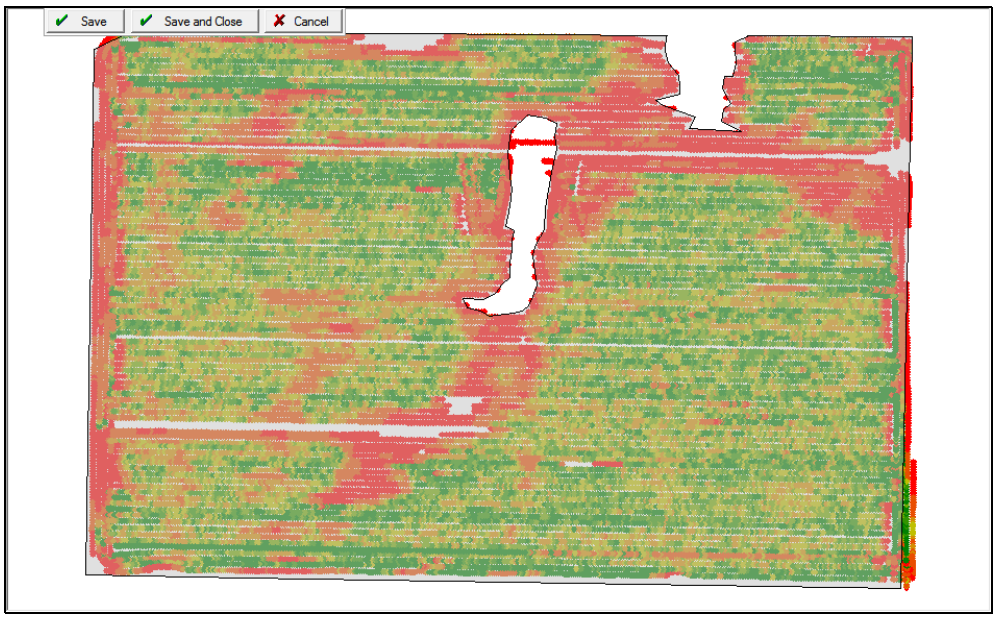
5. In the *Auto Draw Options* dialog, enter the equipment width that was used so that the software knows how far from the points to draw the field boundary. Enter a minimum area to prevent drawing small sections of the field around points that are not grouped together. You can modify this option to create a more accurate field boundary.



6. Click **OK** to begin the Auto Draw process. A progress bar appears.



7. Make any required changes to the field boundary before saving. If the boundary does not look correct because of holes in the middle of the field, or a small area was included that should not have been, either modify the boundary with the editing tools or delete the boundary and then try a different Minimum Area when using Auto Draw.



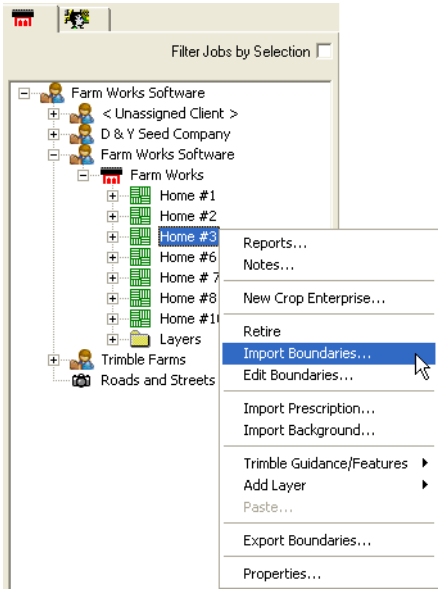
8. Click **Save and Close.**

Importing field boundaries

You can import and view field boundary maps that were created with the mobile mapping software running on a handheld computer or other device, or maps created with other software, as long as they are in the correct file format. One of the most common file formats used for importing and exporting is ArcView shapefile. Before importing shapefiles of field-boundary maps, you must first save the shapefiles to a folder on your computer, and add the field names to the *Farm* tab for the maps you want to import. For more information, see Chapter 5, Mapping Analysis and Chapter 3, Field Record Keeping.

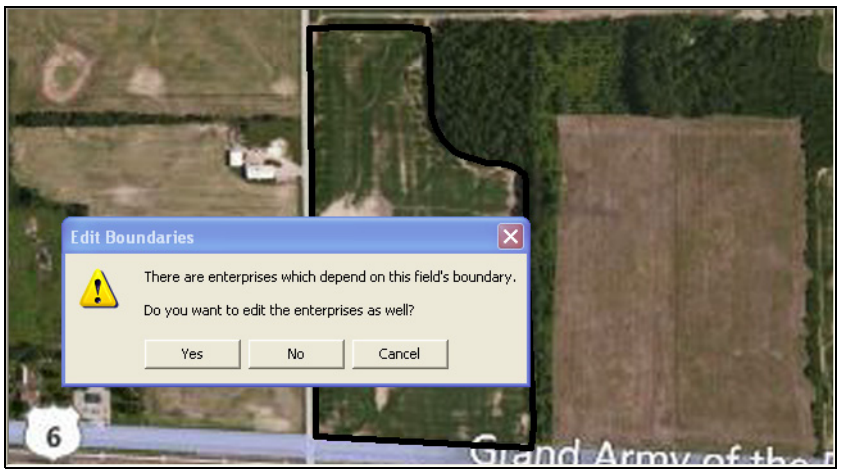
Note – *All shapefiles consist of three actual files: .shp, .shx, and .dbf. You must have all three to make a complete shapefile.*

1. In the *Farm* tab, right-click the icon for the relevant field and then select *Import Boundaries*.

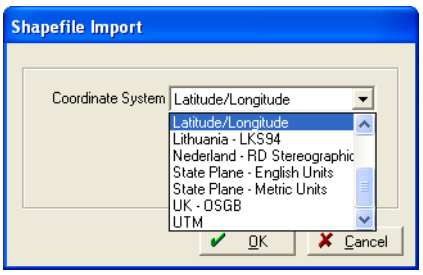


2. In the *Import Boundaries* dialog, locate the shapefile to import—only the .shp file appears—and then click **Open**.

3. When prompted, click **Yes** to update Crop Enterprise with the same .shp file or click **No** to only apply it to the Field. The dialog only appears if you have created crop enterprises, for example "2012 Corn".



4. Under *Coordinate System* in the *Import* dialog, select the coordinate system that you used to create the shapefile. The program typically defaults to the coordinate system in which the shape file is assigned.

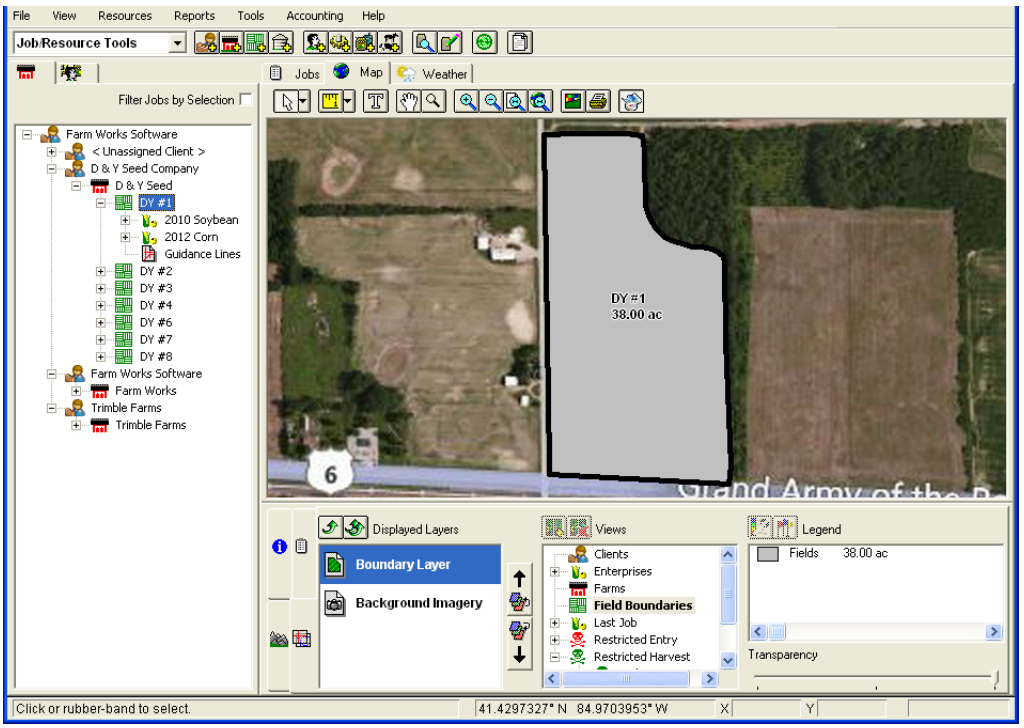


5. Click **OK**: The boundary is added to the boundary layer of the field and can be viewed in the *Map* tab.
6. Click **Save and Close** to save the map or click **Cancel** if you do *not* want to save the map.

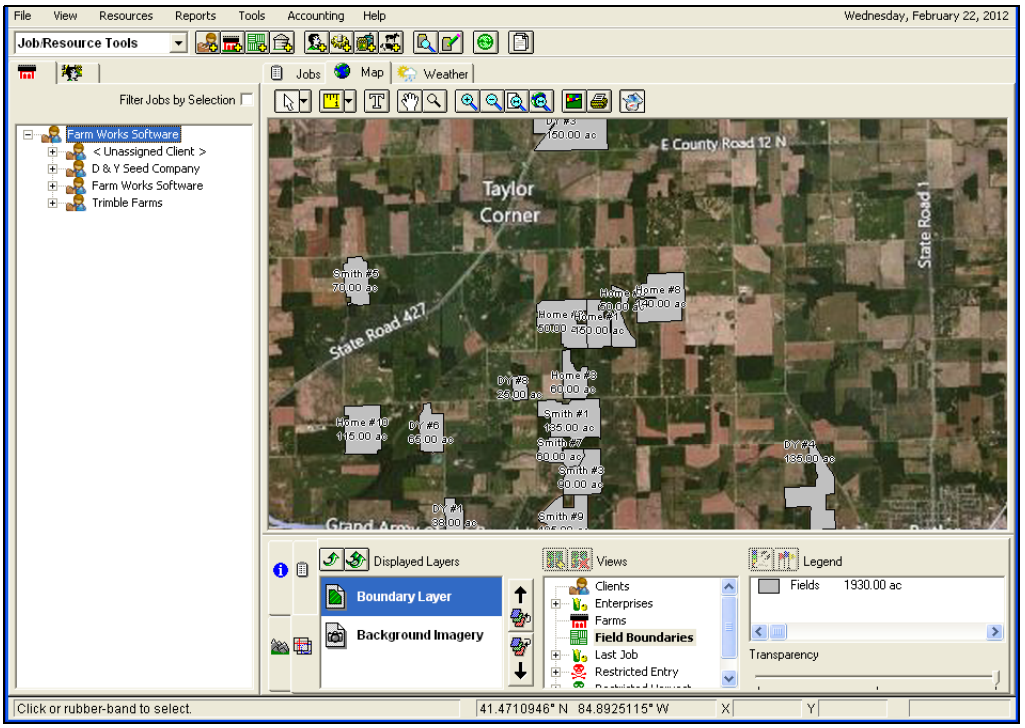
Viewing field boundary maps

Once you create a field boundary map, you can view the field boundary along with background images and other maps and field boundaries.

1. Select the appropriate Farm and then highlight the Field under that Farm. The field boundary appears in the *Map* tab.



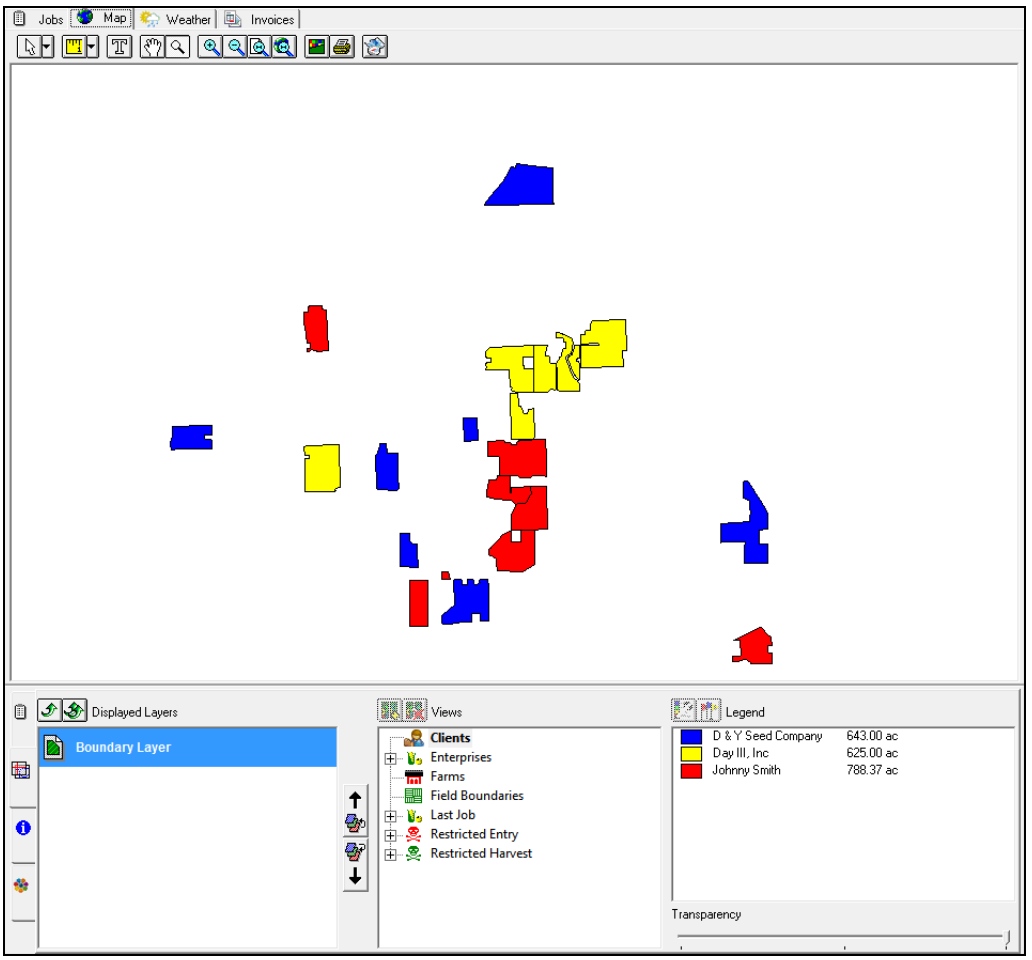
2. To view all of the field boundaries for one Farm, select the *Farm*. To view all of the boundaries for a client, select the *Client*. To view all field boundaries for all farms, click the User Information icon at the top of *Farm* tree view.



Field boundary display: View changes

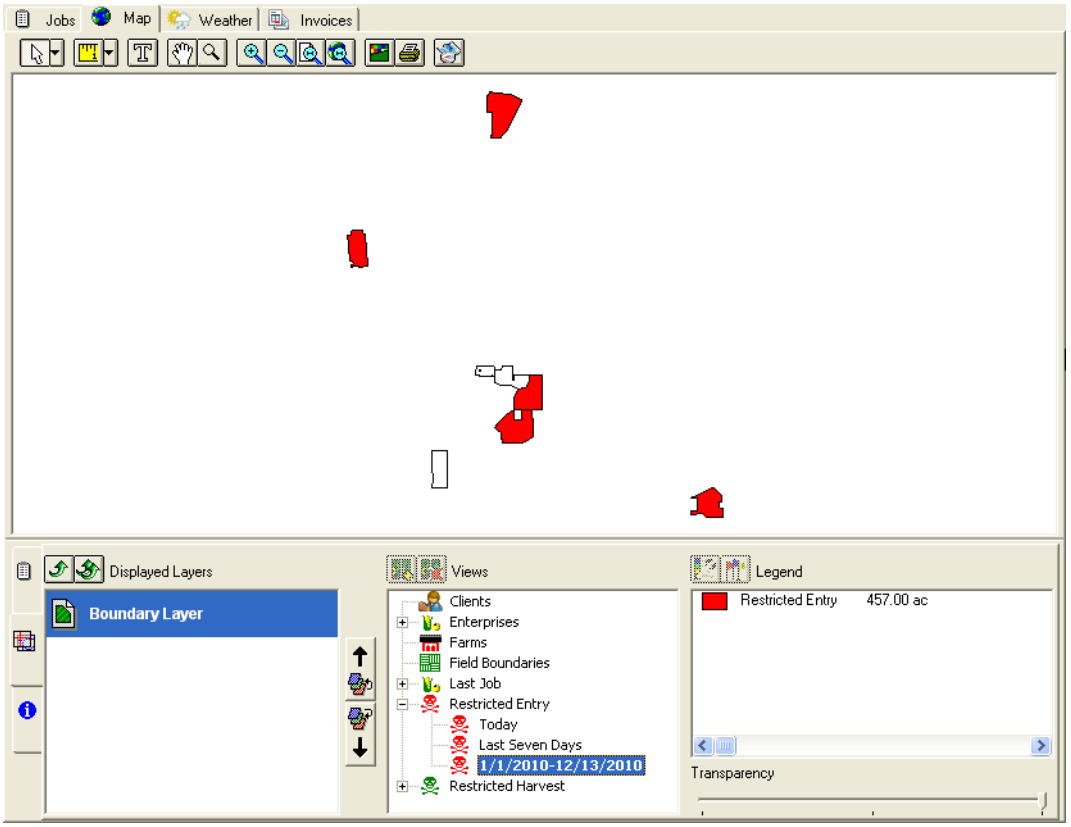
To quickly see what was done recently to a field, what is growing in a field, or which fields belong to which farm, you can change the view on the boundary layer.

1. On the *Farm* tab, select the required Client, Farm, or Field.
2. If the Boundary Layer is not at the top of *Displayed Layers*, double-click it to move it there.
3. Change how the boundary layer appears under *Views*. There are seven options:
   - Clients: Boundaries are colored according to the Client to whom they are assigned.
   - Enterprises: Select a year to see fields colored according to the crop for the selected year.
   - Farms: Boundaries are colored according to the farm to which they are assigned.



   - Field Boundaries: All boundaries are colored the same.
   - Last Job: Select a year to see fields colored according to the crop for the selected year. They also have the pattern that was assigned to the last job for that year. Change a pattern from *Resources / Job Types.*

- Restricted Entry: Select a date range to see which fields have restricted entry (based on REI chemical usage), for that time frame.



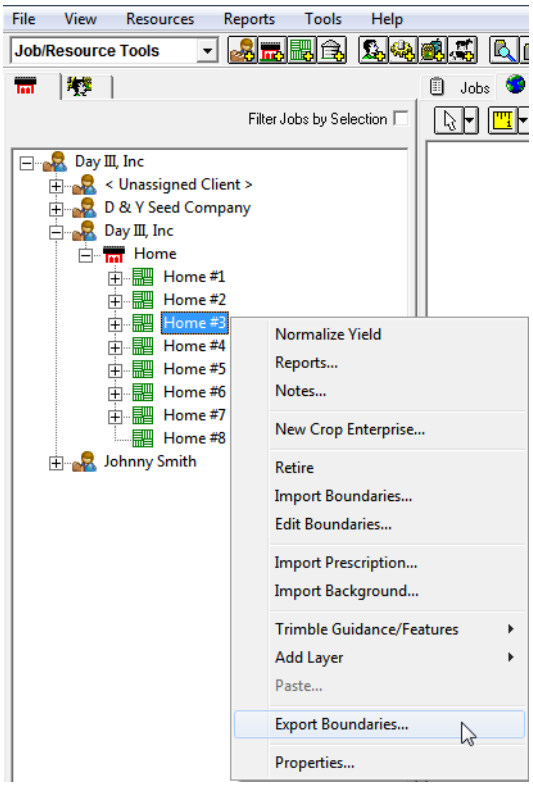
- Restricted Harvest: Select a date range to see which fields have a Pre-Harvest Interval (based on PHI usage), for that time frame.

Exporting field boundary maps

Boundary maps can be exported in a number of formats so that they can be given to third parties for use in other software. Supported formats include ArcView Shape Files and Google Earth .kml files.

To export boundary maps:

1. Select the *Map* tab.
2. In the *Farm* tab, right-click the field to export and then select *Export Boundaries*. To export all of the field boundaries for a farm or client, right-click the Farm or Client name.

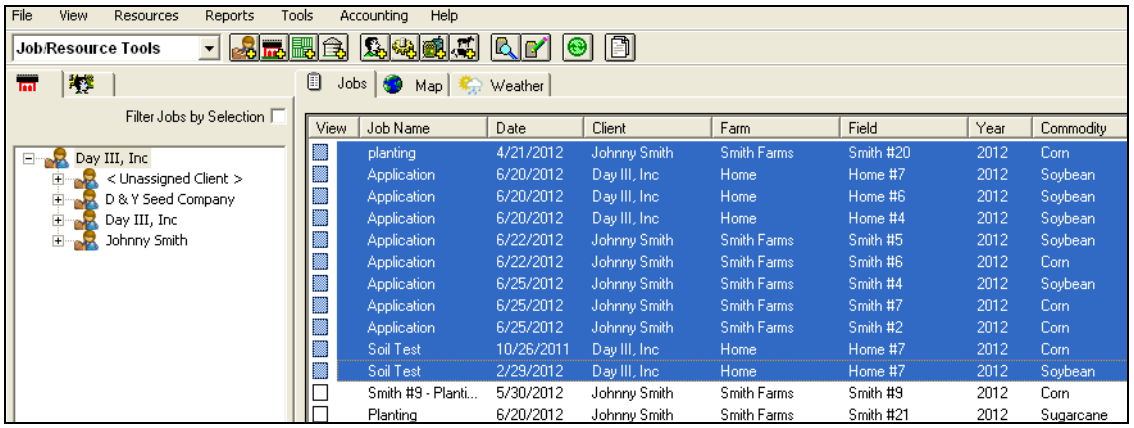


3. In the dialog that appears, select the folder or drive to save the exported file to and then enter a file name.
4. Select the type of file that you want to export the boundaries as (that is, .shp or .kml).
5. Click **Save.** The field-boundary map is saved to that folder or drive.

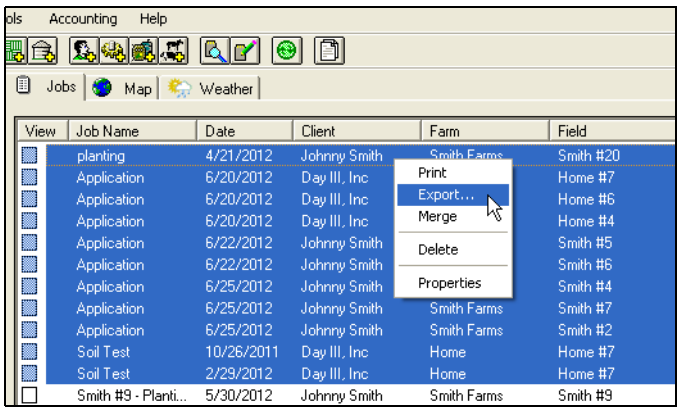
Batch Shape File export

If you have multiple jobs that need to be exported as shape files, you can do this as a batch export:

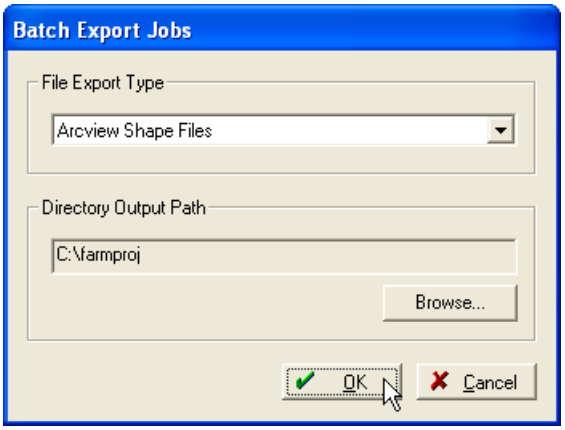
1. Hold down the Ctrl key and then click the jobs you want to export.


File View Resources Reports Tools Accounting Help
Job/Resource Tools
Jobs Map Weather
Filter Jobs by Selection
Day III, Inc
< Unassigned Client >
D & Y Seed Company
Day III, Inc
Johnny Smith
View Job Name Date Client Farm Field Year Commodity
planting 4/21/2012 Johnny Smith Smith Farms Smith #20 2012 Corn
Application 6/20/2012 Day III, Inc Home Home #7 2012 Soybean
Application 6/20/2012 Day III, Inc Home Home #6 2012 Soybean
Application 6/20/2012 Day III, Inc Home Home #4 2012 Soybean
Application 6/22/2012 Johnny Smith Smith Farms Smith #5 2012 Soybean
Application 6/22/2012 Johnny Smith Smith Farms Smith #6 2012 Corn
Application 6/25/2012 Johnny Smith Smith Farms Smith #4 2012 Soybean
Application 6/25/2012 Johnny Smith Smith Farms Smith #7 2012 Corn
Application 6/25/2012 Johnny Smith Smith Farms Smith #2 2012 Corn
Soil Test 10/26/2011 Day III, Inc Home Home #7 2012 Corn
Soil Test 2/29/2012 Day III, Inc Home Home #7 2012 Soybean
Smith #9 - Planti... 5/30/2012 Johnny Smith Smith Farms Smith #9 2012 Corn
Planting 6/20/2012 Johnny Smith Smith Farms Smith #21 2012 Sugarcane

2. Right-click any one of these jobs and then select *Export.*


ols Accounting Help
Jobs Map Weather
View Job Name Date Client Farm Field
planting 4/21/2012 Johnny Smith Smith Farms Smith #20
Application 6/20/2012 Day III, Inc Home #7
Application 6/20/2012 Day III, Inc Home #6
Application 6/20/2012 Day III, Inc Home #4
Application 6/22/2012 Johnny Smith Smith #5
Application 6/22/2012 Johnny Smith Smith #6
Application 6/25/2012 Johnny Smith Smith #4
Application 6/25/2012 Johnny Smith Smith Farms Smith #7
Application 6/25/2012 Johnny Smith Smith Farms Smith #2
Soil Test 10/26/2011 Day III, Inc Home Home #7
Soil Test 2/29/2012 Day III, Inc Home Home #7
Smith #9 - Planti... 5/30/2012 Johnny Smith Smith Farms Smith #9
Print
Export...
Merge
Delete
Properties

3. In the *File Export Type* field select the file type (either *Arcview Shape File* or *FODM (*.xml)* and then select the storage location for the files.



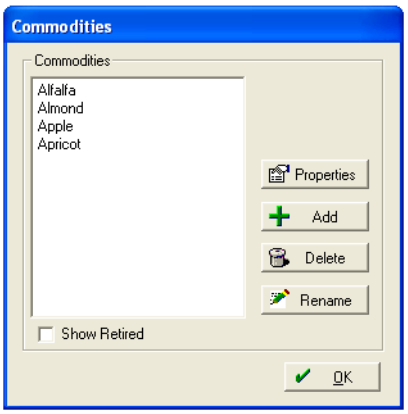
File names are created based on Client_Farm_Field_JobType_Date. The following image shows examples of created files.

Name	Size	Type
Day_III,_Inc_Home_Home_#4_Fertilizer_Application_20120620.dbf	22 KB	DBF File
Day_III,_Inc_Home_Home_#4_Fertilizer_Application_20120620.shp	63 KB	SHP File
Day_III,_Inc_Home_Home_#4_Fertilizer_Application_20120620.shx	2 KB	SHX File
Day_III,_Inc_Home_Home_#6_Fertilizer_Application_20120620.dbf	39 KB	DBF File
Day_III,_Inc_Home_Home_#6_Fertilizer_Application_20120620.shp	127 KB	SHP File
Day_III,_Inc_Home_Home_#6_Fertilizer_Application_20120620.shx	4 KB	SHX File
Day_III,_Inc_Home_Home_#7_Chemical_Application_20120620.dbf	23 KB	DBF File
Day_III,_Inc_Home_Home_#7_Chemical_Application_20120620.shp	75 KB	SHP File
Day_III,_Inc_Home_Home_#7_Chemical_Application_20120620.shx	2 KB	SHX File
Day_III,_Inc_Home_Home_#7_Soil_Test_20111026.dbf	3 KB	DBF File
Day_III,_Inc_Home_Home_#7_Soil_Test_20111026.shp	1 KB	SHP File
Day_III,_Inc_Home_Home_#7_Soil_Test_20111026.shx	1 KB	SHX File
Day_III,_Inc_Home_Home_#7_Soil_Test_20120229.dbf	4 KB	DBF File
Day_III,_Inc_Home_Home_#7_Soil_Test_20120229.shp	1 KB	SHP File
Day_III,_Inc_Home_Home_#7_Soil_Test_20120229.shx	1 KB	SHX File
Johnny_Smith_Smith_Farms_Smith_#2_UnknownJobType_20120625.dbf	22 KB	DBF File
Johnny_Smith_Smith_Farms_Smith_#2_UnknownJobType_20120625.shp	74 KB	SHP File
Johnny_Smith_Smith_Farms_Smith_#2_UnknownJobType_20120625.shx	2 KB	SHX File
Johnny_Smith_Smith_Farms_Smith_#4_UnknownJobType_20120625.dbf	38 KB	DBF File
Johnny_Smith_Smith_Farms_Smith_#4_UnknownJobType_20120625.shp	105 KB	SHP File
Johnny_Smith_Smith_Farms_Smith_#4_UnknownJobType_20120625.shx	4 KB	SHX File
Johnny_Smith_Smith_Farms_Smith_#5_UnknownJobType_20120622.dbf	5 KB	DBF File
Johnny_Smith_Smith_Farms_Smith_#5_UnknownJobType_20120622.shp	17 KB	SHP File
Johnny_Smith_Smith_Farms_Smith_#5_UnknownJobType_20120622.shx	1 KB	SHX File

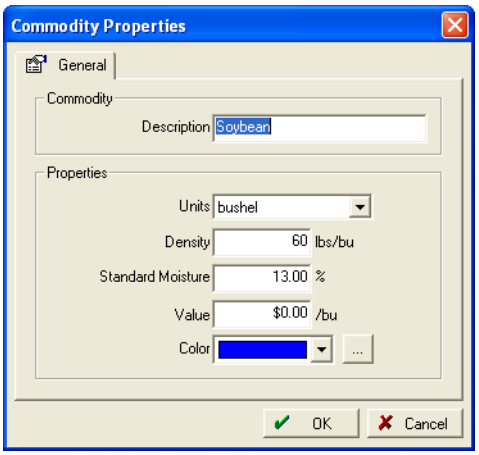
Assigning colors to fields by crop enterprise

Each field can have a different color depending on which crop is growing there. For example, corn can have a different color from wheat or soybeans. This can be useful when looking to quickly see what is growing in each field.

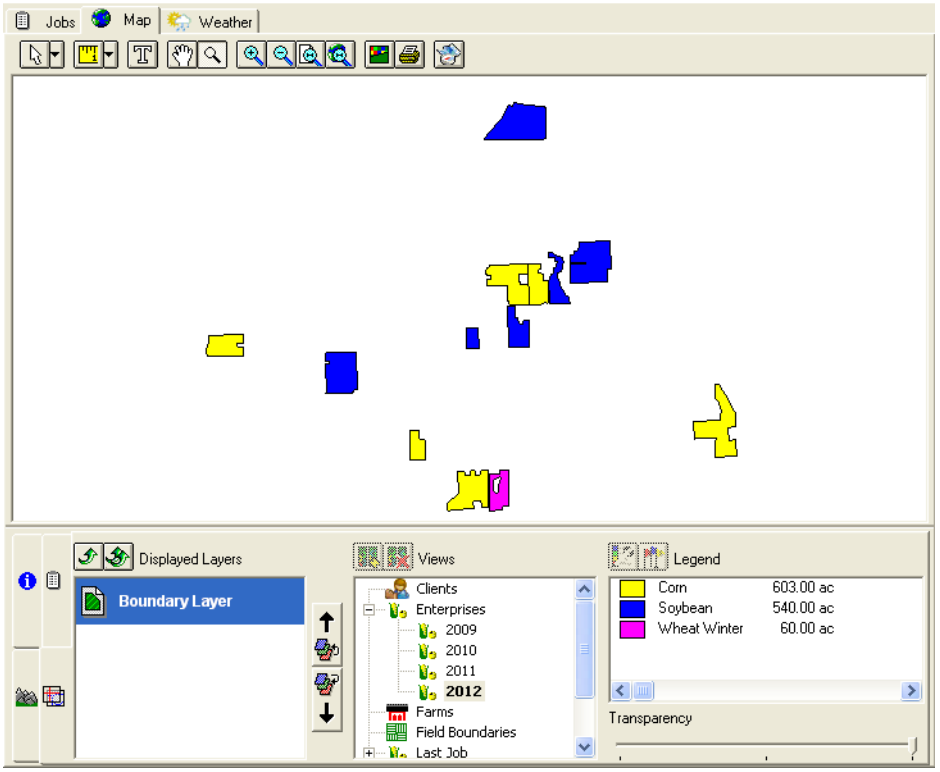
1. From the *Resources* menu, select *Commodities*.
2. In the *Commodities* dialog, select the crop for which you want to assign a color, or select *Add* to add a new crop.
3. Click **Properties** to open the *Commodity Properties* dialog.



4. From the *Color* list, select a color for the crop and then click **OK**.



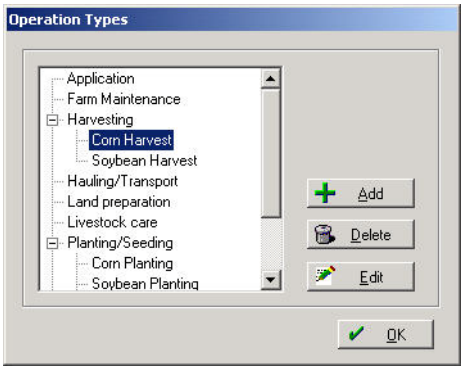
Any field that has that a Crop Enterprise assigned to it, appears in the chosen color in the *Map* tab.



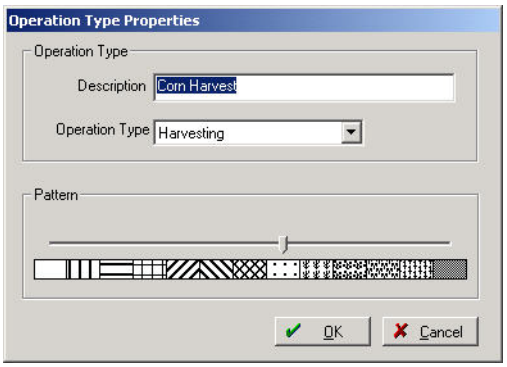
Assigning patterns

To quickly see which field is planted, harvested, and so on, assign patterns to job types so when that job is performed in a field, that pattern is visible.

1. From the *Resources* menu, select *Job Types*.



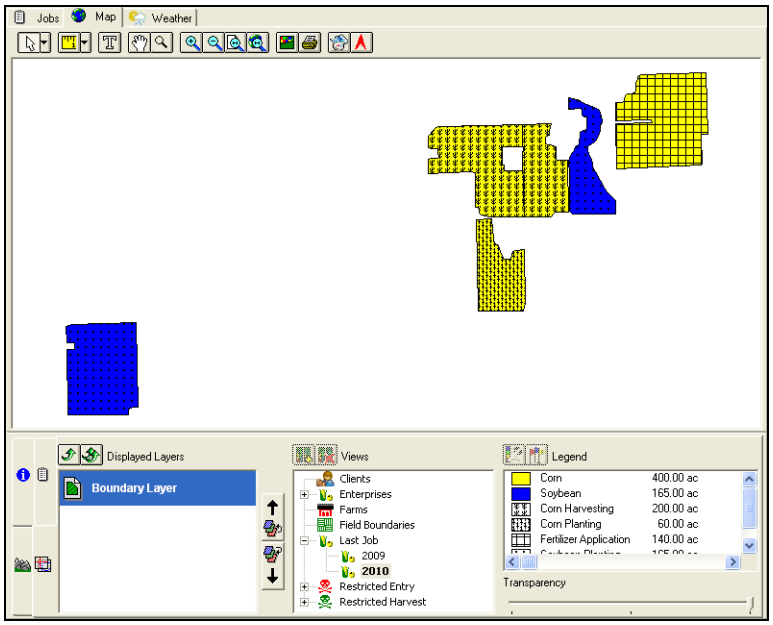
2. In the *Operation Types* dialog, enter a *Description* for the new operation, for example Corn Harvest.



3. Choose the pattern to assign to the job type and then click **OK**.

   Any field that had that operation performed on it last now shows the selected pattern. The color still shows any Crop Enterprise previously selected.

4. In *Views*, select the crop year under *Last Job*.

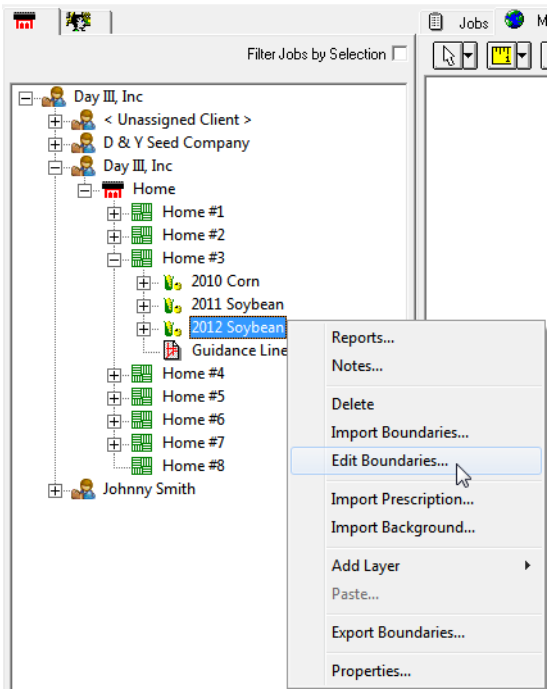


Editing Enterprise maps

There may be years where more than one crop is planted in a field. Multiple crop enterprises can be assigned to a field, and enable you to map crop locations.

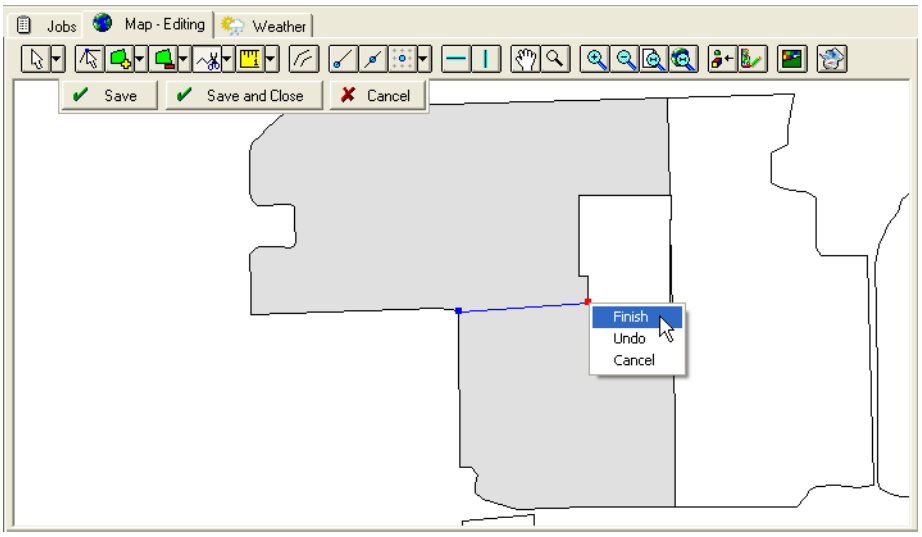
For more information on creating enterprise maps, see Setting up a Crop Enterprise, page 53.

1. In the *Farm* tab, right-click the Crop Enterprise to edit and then select *Edit Boundaries*.



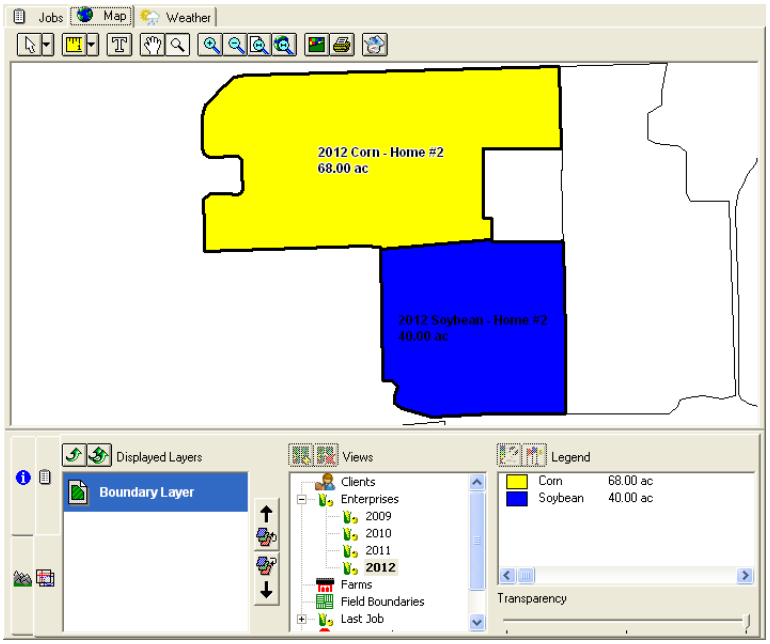
2. Use the *Map-Editing* toolbar to create and split field boundaries.

3. From the *Split* tool list, select *Split Line* to section off the crop portions. Click outside the boundary where the split is to begin, click outside the boundary where the split is to end, right-click and then select *Finish*.



4. With the Selection tool, click in each section to verify the acres, shown in the lower right corner.
5. If the acreage is not correct, use the Node Edit tool to adjust the nodes.
6. With the Selection tool:
   a. Right- click the section of the field that will be assigned to another crop and then select *Delete*.
   b. Right-click the remaining section and then click **Copy**.
   c. Click **Save and Close.**
7. Right-click the other Crop Enterprise and then select *Edit Boundaries*.
   a. Right-click the boundary map and then select *Paste Subtraction*. This places the deleted portion on the mapping screen.
   b. Click **Save and Close.**

8. To view the Crop Enterprise, select the Field from the *Farm* tab tree view: On the *Map* tab, under *Views*, select *Crop Enterprises* and the current year.

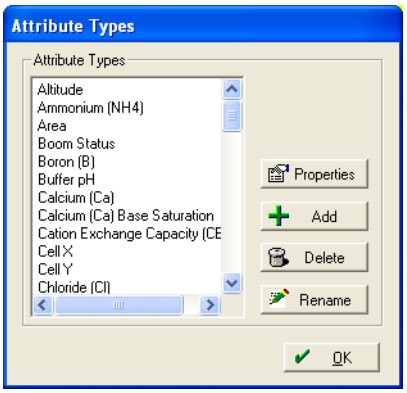


Setting up and selecting layer attributes

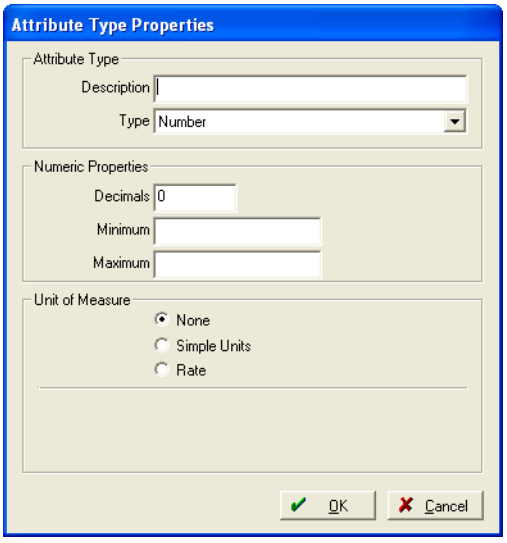
Attributes contain the data that is within a layer. For example, a yield layer imported from a yield monitor might contain the following attributes: Mass flow, moisture, dry yield, flags, region, and so on. When importing a background map (also known as a layer) or soil sample data, for example, you must specify each attribute and what type of attribute it is. There are many predefined attributes, and you can add more. Setting a type for an attribute is very important: While there are generic types of attributes, such as Numbers, Text, and Yes/No, defined attribute types can be very helpful because the units will always be the same when that attribute is selected and you can have one common legend for all layers. This is very helpful when visually comparing two different maps, for example, soil test levels from one field to another. This will also become critical when making formulas for prescription generation.

To add an attribute type:

1. From the *Resources* menu, select *Attribute Types*.



2. To add a type to the list, click **Add**.



Enter a description and then specify the type.

3. In the *Attribute Type Properties* dialog:

Field		Action
Attribute Type	Description	Enter a description.
	Type	Select: • *Number*, if the attribute will contain only numbers. • *Text*, if the attribute will be text. • *Choice*, if there is a set list of values that the attribute will use. Legends can then be created based on the different choices. When choice is selected, whenever that attribute is used on a layer, they will all have common legends. • Yes/No, to return only one of those values. This is commonly used in yield monitors to specify whether the header is up or down (engaged/disengaged).
Numeric Properties	Decimals	If you select Numbers, enter the number of decimal places to show.
	Minimum	If you select Numbers, enter a value. The software disregards anything outside these values.
	Maximum	
Unit of Measure	None	If you select Numbers, enter a value if there are no units associated with the number.
	Rate	If you select Numbers, enter a value if the units are <unit1>/<unit2> such as bushels/acre.
	Simple Units	If you select Numbers, enter a value for everything else (seconds, pounds, bushels, and so on.)

4. When finished, click **OK**.

Creating Guidance / Feature layers

Layers can be used for many types of map information including guidance paths, soil types, roads, and waterways.

You can also add Guidance/Feature layers for export to precision farming displays, such as the Trimble FmX® integrated display and the Trimble CFX-750™ display. These layers include Guidance lines, Area features (for no-apply zones), Line features (tiling, identifying features, and so on), and Point features.

Each Field can have only one of each of the four Guidance/Feature layers. Once a layer is created, double-click it on the *Farm* tab tree view and then the Edit tool to edit it.

When you use the *Read Job Data* option, the software automatically reads any layers that were collected with the device. These layers appear in the *Farm* tab tree view, and can be viewed and edited when you use the *Write Job Data* option.

Working with Guidance Line Layers

Guidance lines can be read in from, and written to displays such as the Trimble FmX integrated display, the Trimble CFX-750 display, the CNH Pro 700 display, the New Holland IntelliView II display, and Ag Leader Integra and Versa Displays. For specific guidance line types and their supported monitors see the following chart.

Note – *You can create guidance lines on a Trimble display and send them to a New Holland or AFS display and the other way around.*

Supported platforms	Supported monitors
Trimble (*Ag*GPS folders)	• FmX integrated display • CFX-750 display • EZ-Guide® 500 lightbar guidance system
Ag Leader (*.agdata/*.agsetup files)	• Integra display • Versa display
CNH (*.cn1 folders/*.vy1 files)	• Case AFS™ 200, Pro 300, Pro 600/700 displays • New Holland Intelliview II, Plus II, III, IV displays • FM-750™ display (*Ag*GPS folders) • FM-1000™ integrated display (*Ag*GPS folders)

Supported platforms	Compatible guidance line patterns
Trimble	• Straight AB • A+ • Curve • Pivot[1] • Headland • Freeform
Ag Leader	• Straight AB • Heading • Pivot[1] • Adaptive Curve • Identical Curve • Smart Path
CNH	• Straight • Heading • Circle[1] • Curve • Spiral[1] • Field

[1] **Straight AB A+ Curve Pivot Headland Freeform**: Trimble and Ag Leader pivot patterns and CNH circle and spiral patterns should not be edited in the Farm Works software. The patterns can be deleted; however, editing the patterns will make the lines unrecognizable by the display.

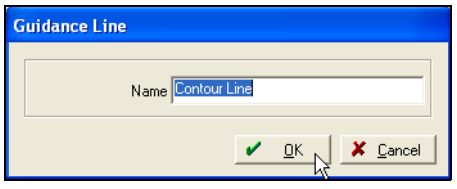
Supported platforms	Guidance line exchange options
Trimble and CNH	• Trimble Straight AB to CNH Straight[1] • Trimble A+ to CNH Straight • CNH Heading to Trimble Straight AB • Trimble Curve to CNH Curve[1] • CNH Field to Trimble Curve and Straight AB
CNH and Ag Leader	• CNH Straight to Ag Leader Straight AB[1] • CNH Heading to Ag Leader Straight AB • Ag Leader Heading to CNH Straight • CNH Curve to Ag Leader Identical Curve • Ag Leader Adaptive & Identical Curve to CNH Curve • CNH Field to Ag Leader Identical Curve & Straight AB
Trimble and Ag Leader	• Trimble Straight AB to Ag Leader Straight AB[1] • Trimble A+ to Ag Leader Straight AB • Ag Leader Heading to Trimble Straight AB • Trimble Curve to Ag Leader Identical Curve • Ag Leader Adaptive & Identical Curve to Trimble Curve

[1] Can work in reverse.

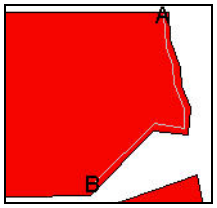
1. In the *Farm* tab tree view, right-click the field, select *Add Layer* and then select *Create Guidance Lines*. The layer opens in Map Editing mode.
2. From the *Map* toolbar select one of the options:
   - To create a curved guidance line, see page 155.
   - To create a straight guidance line, see page 156.
   - To create a guidance line at a specific angle, see page 156.

Creating a curved guidance line

1. From the Line tool drop-down list, select the Curved A-B Line Tool .
2. Click to create the first point and then click to create each new point along the required guidance path.
3. When finished, right-click and then select *Finish*.
4. In the dialog that appears, click **OK** to accept the assigned name or enter a different name and then click **OK**. The name that you enter here appears in the device that you use.

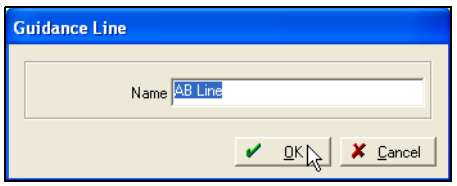


An A-B designation is added to the Guidance layer.



Creating a straight guidance line

1. From the Line tool drop-down list, select the Straight Line A-B Line tool .
2. Click to create Point A and then click in the correct location to create Point B.
3. In the dialog that appears, click **OK** to accept the assigned name or enter a different name and then click **OK**. The name that you enter here appears in the device that you use.

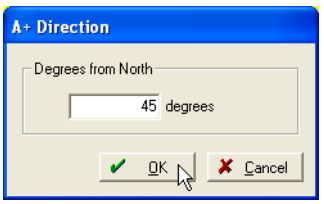


An A-B designation is added to the Guidance layer.

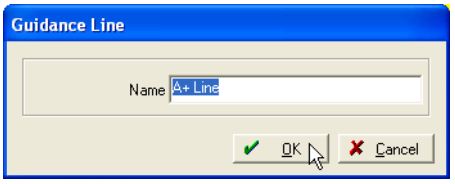
Creating a line at a specific angle (A + Line)

1. From the Line tool drop-down list, select the A + Line tool . The line is automatically 1.55 miles long.
2. Click to create Point A.
3. Continue to hold down the left mouse button and then drag to draw a line in the required direction. When the guidance line is in the correct direction, release the mouse button.

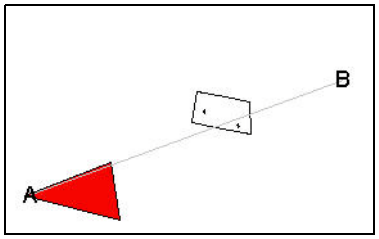
   The *A+ Direction* dialog shows the angle of the line.
4. If necessary, change this angle. If you do change the angle, the path changes accordingly.



5. Click **OK**.



6. Enter a name for the guidance line and then click **OK**. An A+ Line is added to the Guidance layer.

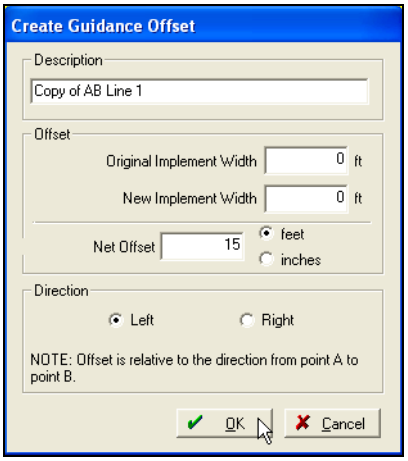


You can do the following with guidance lines.

- Adjust the guidance line:
  a. Select the Node Edit tool.
  b. Click the A-B line.
  c. Pass over one of the node points; the cursor shape changes to a hand.
  d. To move a particular node, click-and-drag the node as required.
  e. To add a node, double-click the line where the node is needed, or right-click and then select *Add*.
  f. To delete a node, right-click it and then select *Delete*.
- Adjust the line placement:
  a. Click the Select tool .
  b. Click and hold on the guidance line; the cursor shape changes to a hand.
  c. Click-and-drag the line as required.
- Create an offset path:

a. Click the Select Tool .

b. Right-click the A-B line and then select *Create Offset*.



c. Enter values in *Original Implement Width* and *New Implement Width*. The software automatically creates the *Net Offset*.

d. Enter the *Offset Direction* and then click **OK**.

e. Click **Save and Close**.

- Copied from layer to layer:

a. Display the layer that has the lines that you want to copy.

b. Right-click the line and then select *Copy*.

c. From the *Farm* tab tree view, select the layer to copy the line to.

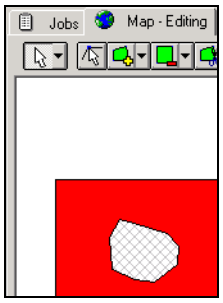
d. Right-click and then select Edit Layer, or double-click to view the layer and then select the Edit Tool from the *Map* tab.

Creating area features

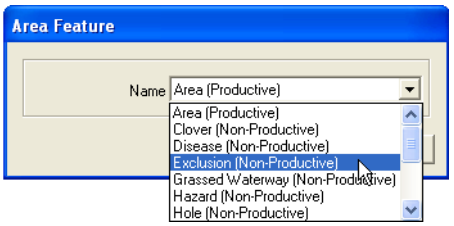
Area features can include a no spray zone, such as a grass waterway, or ponds, lagoons, and hazards.

1. From the *Farm* tab tree view, right-click the Field, select *Add Layer* and then select *Create Area Features*.

2. Create features using the Mapping tools. For example, use the Include Polygon tool to click (right-click to finish) and create an exclusion area.



3. In the *Area Feature* dialog, select the type of feature from the Name list and then click **OK**.

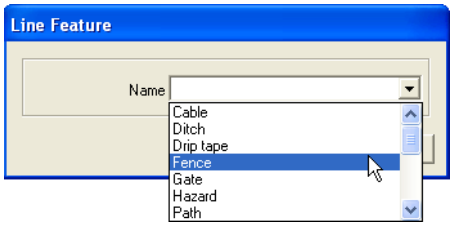


Creating line features

You can add Line features including cables, tiling, and hazards, to a layer.

1. From the *Farm* tab tree view, right-click the Field, select *Add Layer* and then select *Create Line Features*.
2. Do one of the following:
   - Copy an existing line:
   a. Right-click a line and then select *Copy*.
   b. From the *Farm* tab tree view, select the layer to copy the line to.
   c. Right-click and then select *Edit Layer*, or double-click to view the layer and then select the Edit tool from the *Map* tab.
   d. In *Map Editing*, right-click and then select *Paste*.
   - Hand-draw a line with the line tool:
   a. Select the Feature Line layer and then select *Edit* mode.
   b. Select the Line tool .
   c. Click to create the first point and then click to create each new point along the required path.
   d. When finished, right-click and then select *Finish*.

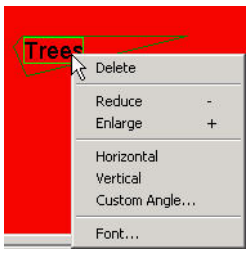
e. In the dialog that appears, select a name from the drop-down list and then click **OK**.



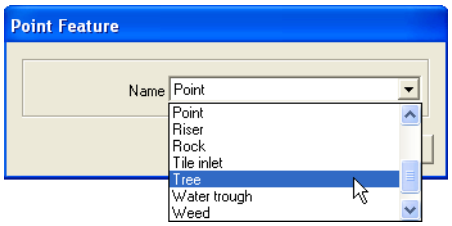
The drawn line features appear on the map.

Creating point features

Point features can represent landmarks such as rocks, trees, and other objects.



1. From the *Farm* tab tree view, right-click the Field, select *Add Layer* and then select *Create Point Features*.
2. Do one of the following:
   - To manually create points, select the Define Points tool and then click to add a point. In the dialog that appears, select a point name (type) from the drop-down list.



The points appear on the map.

a. Display the layer with the point that are needing to be copied.

b. Right-click a point and then select *Copy*.

c. From the Farm tab tree view, select the layer to copy the point to.

d. Right-click and then select *Edit Layer*, or double-click to view the layer and then select the Edit tool from the *Map* tab.

e. In Map Editing, right-click and then select *Paste*.

Multi Swath Lines management

The Multi Swath Lines management (also known as Crop Row Management or Advanced Guidance Line Management) features of the Farm Works Software solutions enable you to automatically generate swaths and planned planting swaths that can be used for guidance. In addition, the program can take completed planting swaths and then create crop rows that can be used for management on a row-by-row basis. This functionality can be particularly useful for sugarcane and other crops where single rows are harvested.

Note – *Multi Swath Lines layers must be assigned to an actual crop in order to be written out. Layers under Unassigned Crop will not be written. When writing data to a display, the multi-swath lines under the latest crop year will be written.*

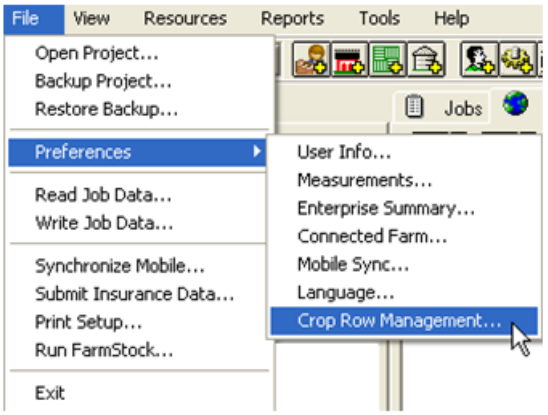
Crop Row Management

Enabling Crop Row Management

If you are designing planned Multi Swath Lines ***before*** you start working in the field or if you are creating ***individual*** crop-rows (typically for sugarcane operations), you must enable the *Crop Row Management* tools. If Crop Row Management is not enabled, you can still read and write multi-swath lines and you can also edit, delete and create new multi-swath lines to be written back out.

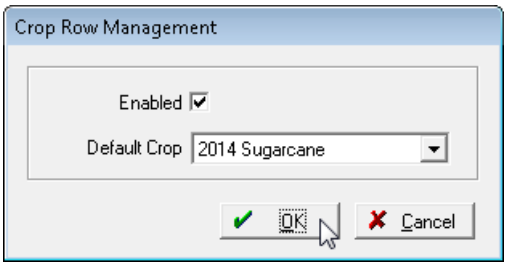
To enable Crop Row Management:

1. Select *File / Preferences / Crop Row Management*:



2. Place a check mark next to *Enabled*.

3. From the *Default Crop* drop-down list, select the typical crop enterprise, such as 2014 Sugarcane.



Note – *When data is read into the software, the program will create a Multi Swath Lines layer that will be used for crop row management or guidance. If the collected data does not include an enterprise, the Multi Swath Lines layer will be added to the Default Crop enterprise or Unassigned Crop if Crop Row Management is not enabled.*

4. If your crop enterprise is not listed select *<Add/Edit>*.
    a. Click **Add** and then select a Commodity from the list or select *<New>* to add your own.
    b. If you selected *<New>*, complete the *Commodity Properties* dialog.
    c. Select the correct year from the drop-down list on the *Commodities Properties* dialog.
    d. Click **OK** to save the entry and exit the *Commodity Properties* dialog.
    e. Click **OK** to save and exit the *Commodities* dialog.
5. ***If the Accounting software is installed***, you must also select an account, which is used to keep track of costs associated with the crop, harvest, and other costs.
6. Click **OK** to return to the *Crop Row Management* dialog.
7. Once the enterprise is selected, click **OK** to exit.

Once Crop Row Management is enabled, you can import or read in your planting data to create crop rows. Planting data can be read in using the Read Job Data option or through the Office Sync option of the Connected Farm™ software. For more information on Office Sync, see Chapter 6, Office Sync.

Reading job data

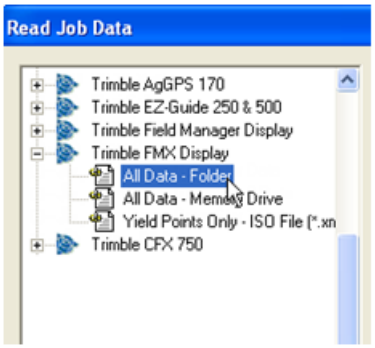
Supported displays

The software will read and write Multi Swath Lines data from the following displays:

- Trimble FmX integrated display
- Trimble CFX-750 display
- Case Pro 700 display
- New Holland Intelliview Plus IV display
- FM-1000 integrated display
- FM-750 display

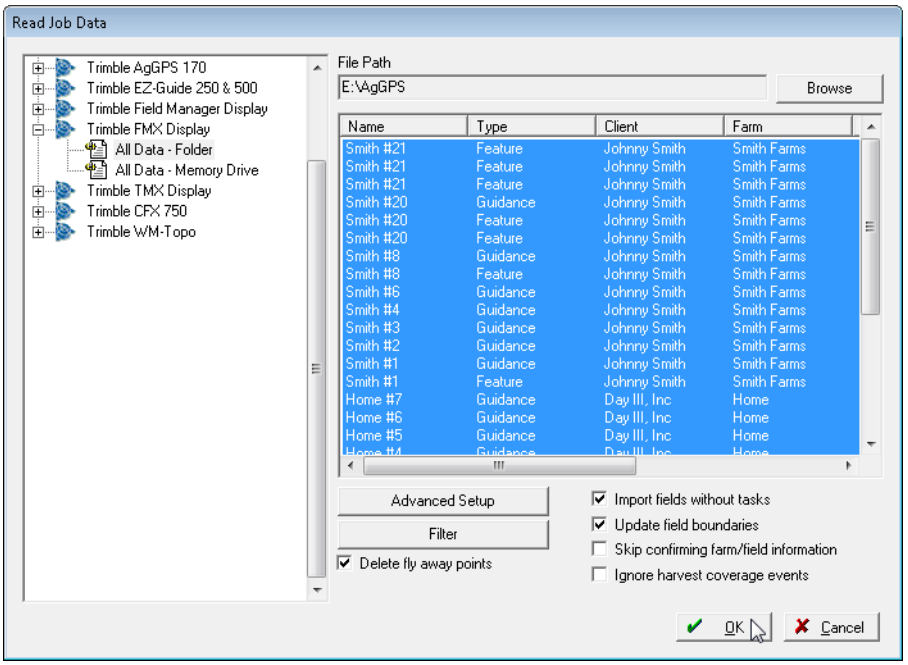
To read the job data, do the following:

1. Select *File / Read Job Data*.
2. In the left column of the *Read Job Data* dialog, click **+** next to the display the data was collected on and then select the specific data type listed below.


Read Job Data
Trimble AgGPS 170
Trimble EZ-Guide 250 & 500
Trimble Field Manager Display
Trimble FMX Display
All Data - Folder
All Data - Memory Drive
Yield Points Only - ISO File (*.xn
Trimble CFX 750

3. Under *File Path*, click **Browse** to find the storage card or folder where you saved the data.
4. In the *Open* dialog, select the appropriate file.

   For example, to import Trimble data (from an FmX integrated, display, a CFX-750 display or an EZ-Guide® system), navigate to and then select the *Ag*GPS® folder; for Pro 700/Intelliview Plus IV data, select the *.CN1 folder.
5. To select the job(s) to import, highlight each one. To select multiple files, hold down the Ctrl key while selecting.

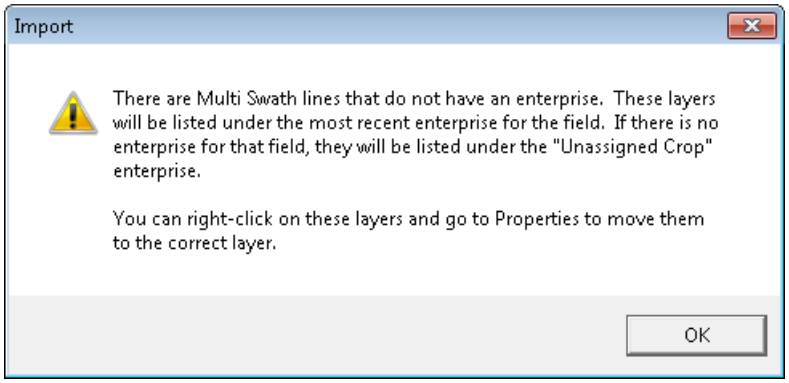

Read Job Data
Trimble AgGPS 170
Trimble EZ-Guide 250 & 500
Trimble Field Manager Display
Trimble FMX Display
All Data - Folder
All Data - Memory Drive
Trimble TMX Display
Trimble CFX 750
Trimble WM-Topo
File Path
E:\AgGPS
Browse
Name
Type
Client
Farm
Smith #21 Feature Johnny Smith Smith Farms
Smith #21 Feature Johnny Smith Smith Farms
Smith #21 Feature Johnny Smith Smith Farms
Smith #20 Guidance Johnny Smith Smith Farms
Smith #20 Feature Johnny Smith Smith Farms
Smith #20 Feature Johnny Smith Smith Farms
Smith #8 Guidance Johnny Smith Smith Farms
Smith #8 Feature Johnny Smith Smith Farms
Smith #6 Guidance Johnny Smith Smith Farms
Smith #4 Guidance Johnny Smith Smith Farms
Smith #3 Guidance Johnny Smith Smith Farms
Smith #2 Guidance Johnny Smith Smith Farms
Smith #1 Guidance Johnny Smith Smith Farms
Smith #1 Feature Johnny Smith Smith Farms
Home #7 Guidance Day III, Inc Home
Home #6 Guidance Day III, Inc Home
Home #5 Guidance Day III, Inc Home
Advanced Setup
Filter
Delete fly away points
Import fields without tasks
Update field boundaries
Skip confirming farm/field information
Ignore harvest coverage events
OK
Cancel

6. Click **OK**.

The import progress is shown as the software reads each of the files.

The coverage maps and the Multi Swath Lines layer will be added under the appropriate Farm and Field and Enterprise.

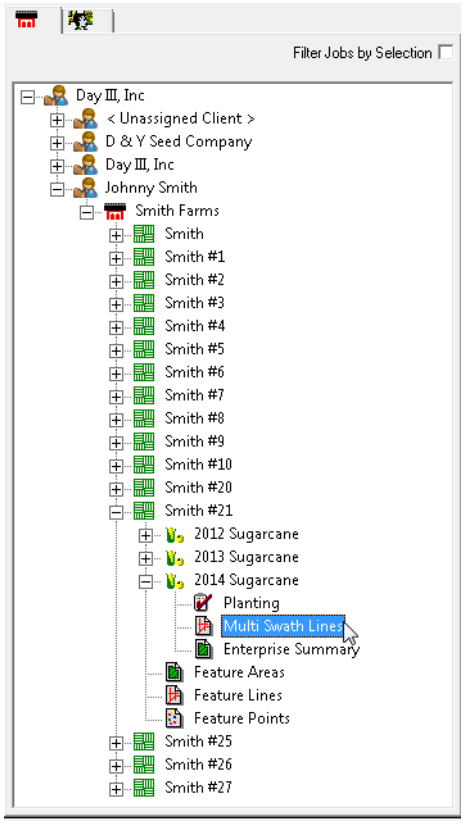
Note – *When data is read into the software, the program creates a Multi Swath Lines layer that will be used for crop row management or guidance. If the collected data does not include an enterprise, the Multi Swath Lines layer is added to the Default Crop enterprise or unassigned crop (if Crop Row Management is not enabled).*

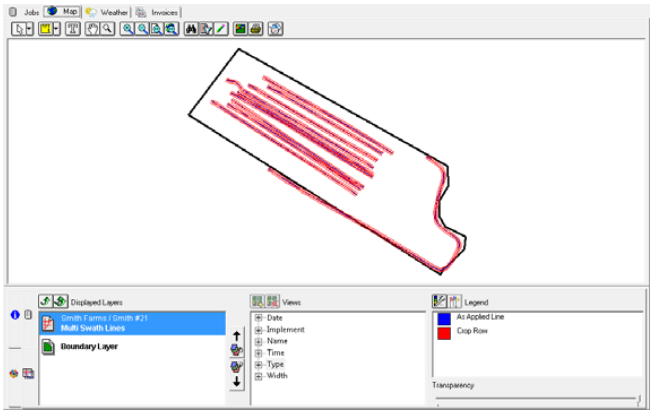

Import
There are Multi Swath lines that do not have an enterprise. These layers will be listed under the most recent enterprise for the field. If there is no enterprise for that field, they will be listed under the "Unassigned Crop" enterprise.
You can right-click on these layers and go to Properties to move them to the correct layer.
OK

Working with Multi Swath Lines as planting lines

1. In the *Farm* tab, locate the *Multi Swath Lines* layer under the applicable Client, Farm, Field and Enterprise.

2. Double-click the *Multi Swath Lines* layer to view it on the map.





With the Multi Swath Lines displayed, the legend shows three different line types:

- **As Applied Line**: The line that was actually driven when operating/planting.
- **Crop Row**: Where the crop was planted based on the implement information entered into the display (in this example, an FmX or FM-1000 integrated display).
- **Planned**: Planned crop row lines that can be created and then sent to the FmX display to follow during planting.

Editing row settings

If *Crop Row Management* is enabled, you can fix incorrect row settings that came from the display.

Note – *This does not apply to Pro700/Intelliview Plus IV users. Implements for the Pro700/Intelliview Plus IV are listed as Unknown and cannot be edited.*

Enabling Crop Row Management allows you to have Planned, Applied, and Crop-Row Lines. If Crop Row Management is not enabled, you will only have Applied lines. Crop Row Management allows you to:

- Filter lines by *Type* (Planned, Applied, and Crop Rows).
- Assign new lines to a *Type* (Planned, Applied or Crop Rows).

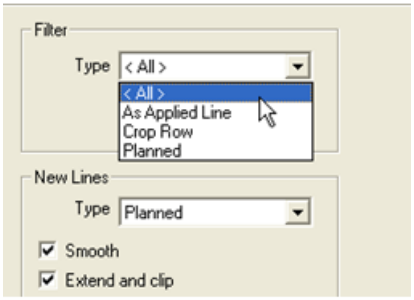
- Implement *Options* that are used to generate Crop Rows.

If Crop Row Management is enabled and you write data to a display, the following rules apply:

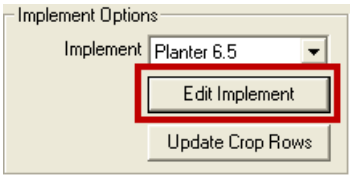
- If there are Applied Lines, they will be written to the display.
- If there are Planned but no Applied lines, then the Planned Lines are written out.
- Crop Rows are always written out if they are there. These are written along with the Applied or Planned lines.

To edit Row Settings:

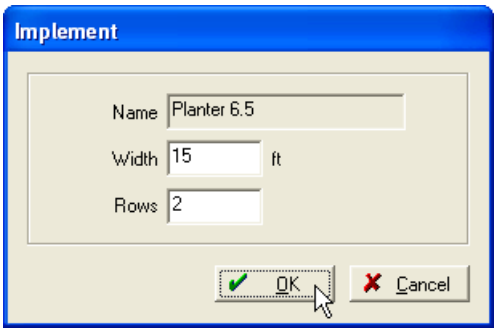
1. With the Multi Swath Lines displayed, click the Edit Layer icon .
2. Use the *Filter* drop-down list to show only certain lines, such as As Applied Lines, Crop Row, or Planned Lines. Select *< All >* to view all lines.



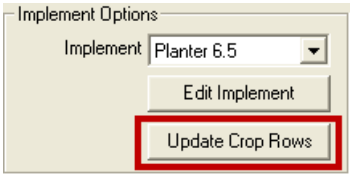
3. Under *Implement Options* click **Edit Implement**.



4. Change the implement *Width* and/or the number of *Rows*, and then click **OK**.



5. Click **Update Crop Rows** to make the changes to the multi swath lines. All of the Crop Row lines will be deleted and recreated based on the new settings.

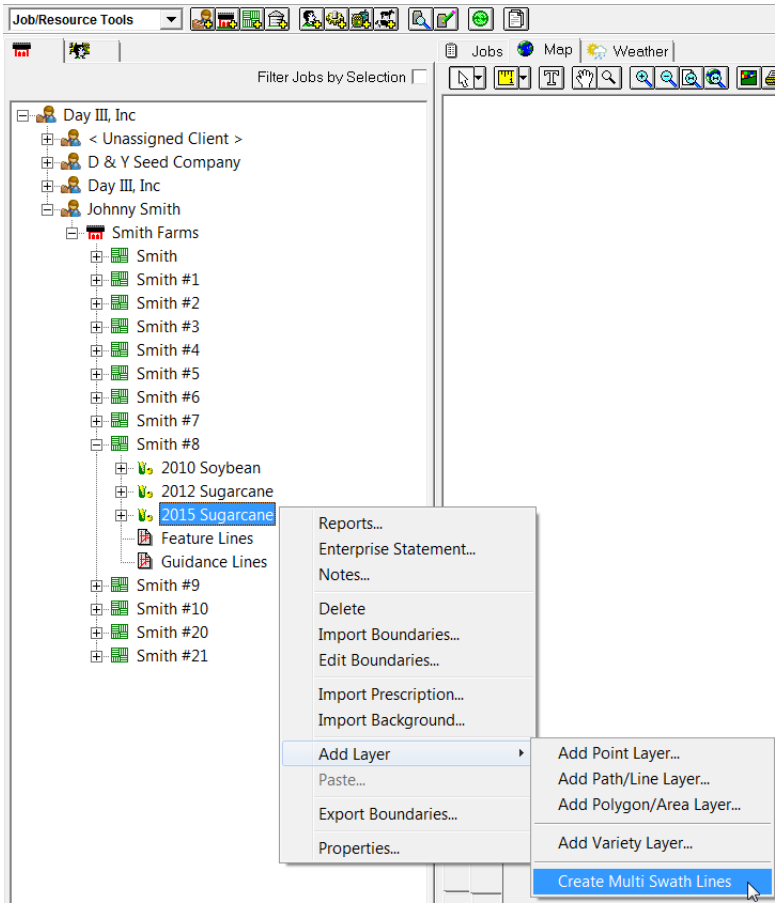


6. Click **Save and Close** to save and exit Map Editing.

Creating planned Multi Swath Lines

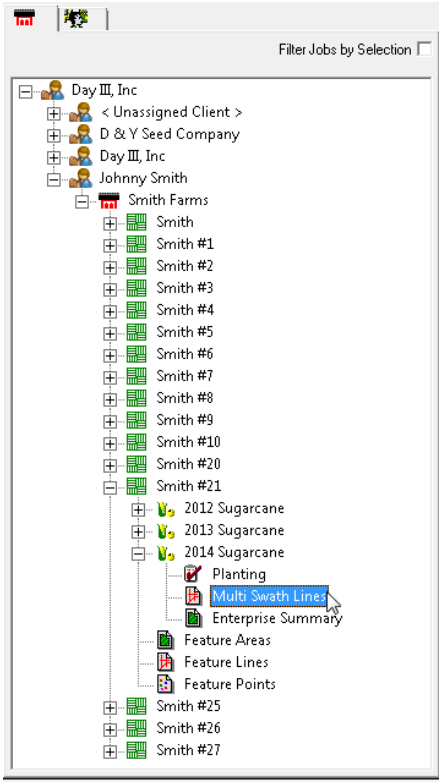
The software enables you to create planned Multi Swath Lines from scratch. These lines can be based on any other lines including a portion of a field boundary. To create planned Multi Swath Lines:

1. In the *Farm* tab, locate the crop enterprise under the applicable Farm and Field.
2. Right-click the crop enterprise, select *Add Layer* and then select *Create Multi Swath Lines*.

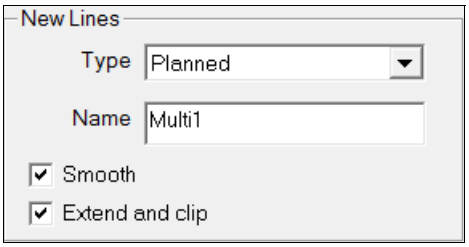


A Multi Swath Lines layer appears below the Farm, Field, and Enterprise.

3. Double-click the Multi Swath Lines layer to view the map.



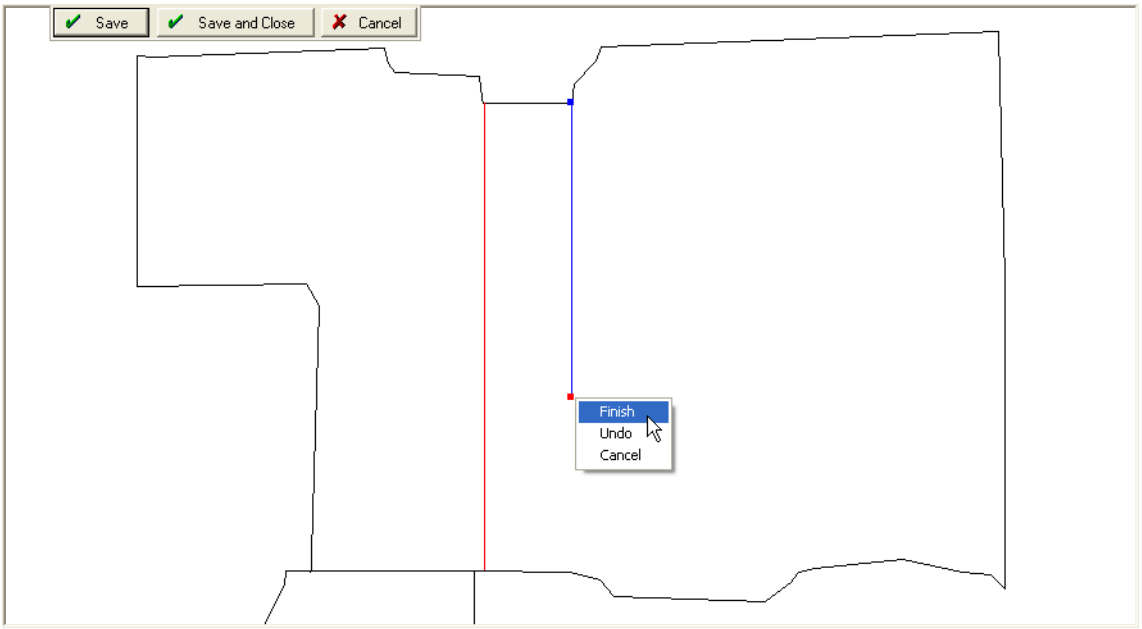
4. With the Multi Swath Lines displayed, click the Edit Layer icon .
5. From the *Filter* drop-down list select either *Planned* or *< All >.*
6. Under the *New Lines* section select *Planned*, so that all new lines are created as Planned lines. Alternatively, select *As Applied Line* if you are working with actual driven lines.
7. Select the *Smooth* check box for the program to automatically smooth corners or turns when the planned line is created.



If you select this option, you must enter a turn radius value in the *Smooth Options* field.

8. Select the *Extend and Clip* check box for the program to automatically extend or clip the lines to the enterprise boundary for the field.
9. To manually create planned lines, select the Line tool from the Map Editing Toolbar.
10. Click to create the first point and then click to create each new point along the required path.

11. When finished, right-click and then select *Finish*.



The drawn line appears on the map in red

12. Repeat Step 10 through Step 11 for each line needed to complete the planned planting map.

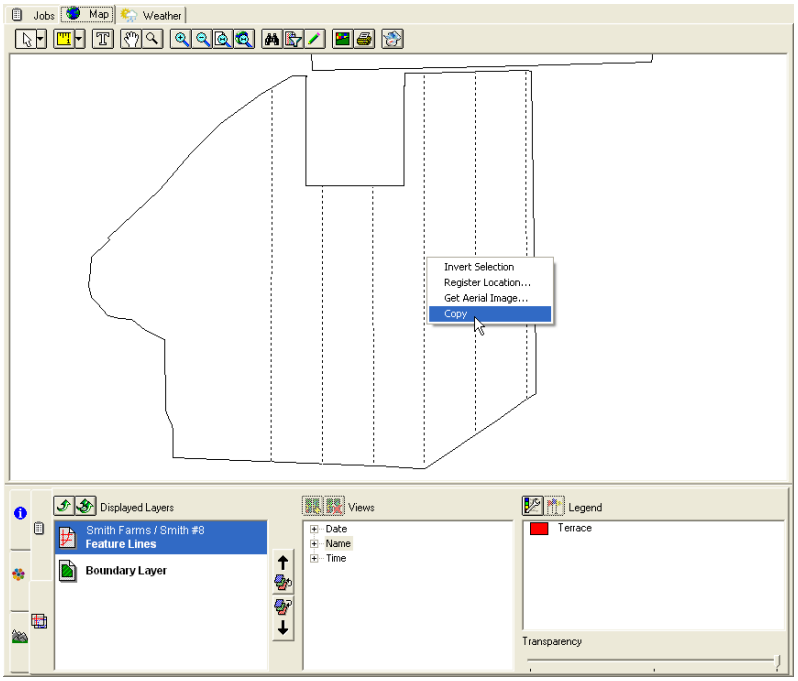
Note – *If the "Extend and Clip" option is enabled, any drawn lines that go outside the enterprise boundary will be clipped to the boundary. In addition, any lines that are within the enterprise boundary and do not intersect it, will be extended to the boundary.*

Copying planned Multi Swath Lines from other sources

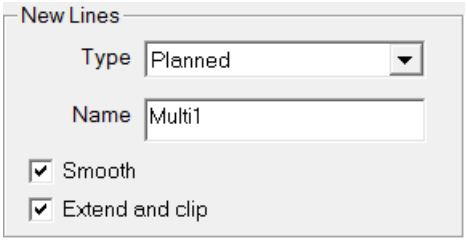
Lines can also be copied from another source/layer. This is useful if you have mapped a feature such as a terrace or low spot in the field as a "Feature Lines" or Path/Line layer. To copy lines:

1. Open the layer that contains the lines that you want to copy (such as a *Feature Lines* layer).
2. Right-click on a blank area of the map screen and then select I*nvert Selection* to select all the lines on the layer.

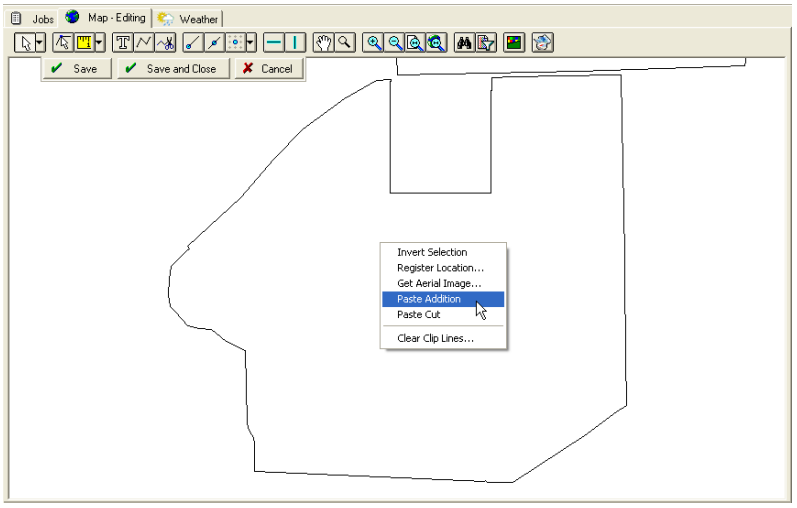
3. Right-click again and then select *Copy*.



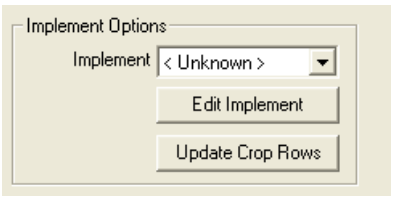
4. Open the Multi Swath Lines layer.
5. Click the Edit Layer icon .
6. In the *New Lines* section, select *Planned* from the *Type* drop-down list.



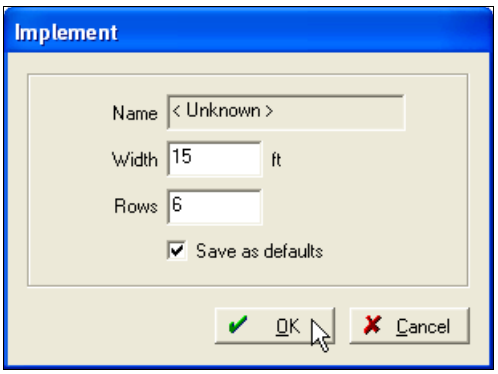
7. Right-click on a blank area of the map screen and then select *Paste Addition* to copy and paste the lines to the Multi Swath Lines layer.



8. To assign an implement to a line, right-click on the line, select *Properties* and then select the correct implement. If no implement is listed, select *Unknown*. If the line should have an implement, it should be an *As Applied Line*. Click **OK** to save the information. Implements are only needed if you want to generate crop rows from the data.
9. To create Crop Row Lines from the As Applied Line, select the implement from the drop-down list in the lower left corner. If an implement is not listed, select *Unknown*.

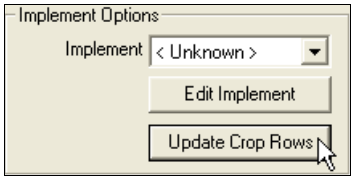


10. Click **Edit Implement** and then enter the swath *Width* and number of *Rows* to be created for each As Applied Line.



11. Select the *Save as Default* check box to default these settings for all future implements and then click **OK**.

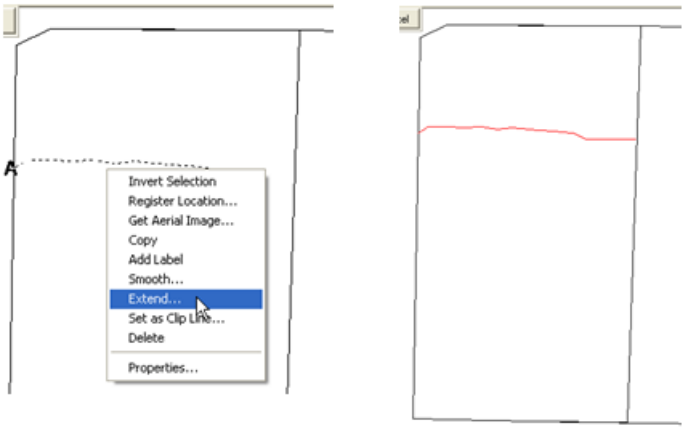
12. Click **Update Crop Rows.**



13. When prompted to confirm that the program will delete and recreate all crop rows based on the settings for the selected implement, click **Yes**. Crop rows are created based on the implement settings.

If you did not select *Extend and Clip* or *Smooth*, or you copied lines from another layer, you can still choose to extend the line and clip it to the boundary, and to smooth the line, as follows:

1. Click one or more of the existing lines on the map so that they are highlighted and flashing.
2. Right-click on the line and then select *Extend*. The selected line(s) will be extended and/or clipped to the enterprise boundary for the field.

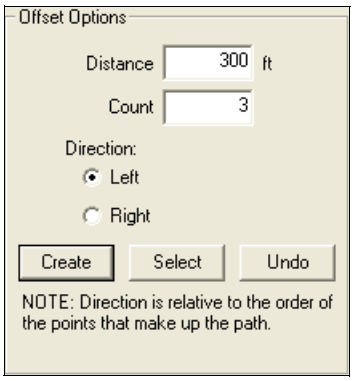


3. To smooth lines, select them, right-click and then select *Smooth*.

Working with offsets

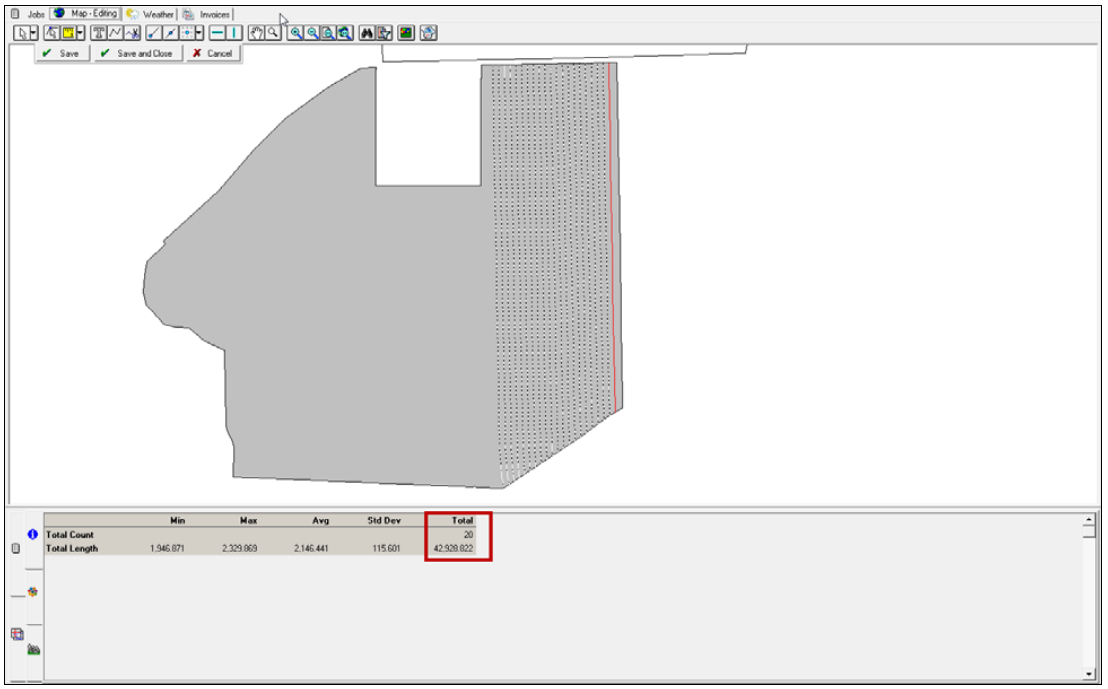
Use the *Offset Options* dialog to map multiple lines that are evenly spaced out based on one of the already drawn lines. The offset option can be used with both Planned and As Applied lines.

1. Click one of the existing lines on the map so that it is highlighted and flashing.
2. In the *Offset Options* section, enter a *Distance*. This should be the distance between the lines (typically the width of the implement that will be used - likely a planter).
3. Enter a *Count* that represents the number of lines that will be created.



Note – *Lines will be clipped to the enterprise boundary so the program will never create more lines than will fit within the enterprise boundary.*

4. Select a *Direction* that is relative to the order of points that make up the path. The selected line will have an A and B at the ends so that you can identify the direction.



5. Do one of the following:
   - Click **Create** to create the offsets on the map.
   - Click **Select** to select the lines that were just created. The number and total length of the selected lines appear in the *Information* tab.
   - Click **Undo** to remove the last offset that was created. If you click **Undo** multiple times, it will undo each previous set of lines that were created with the **Create** button.

   If the line that was initially used for the offset has an Swath ID (right-click the line and select *Properties* to see the line ID), the new lines that are created will also have Swath IDs. These IDs are numbered sequentially based on the ID of the line that was used.

Note – *The Undo button will only undo lines that were made as a result of the* ***Create*** *button.*

6. Click **Save and Close** to save and then exit Map Editing.

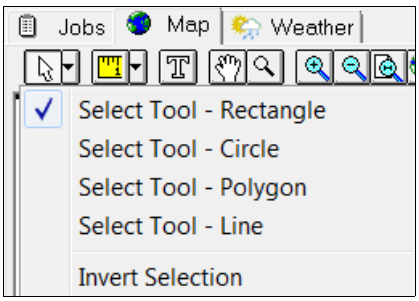
Working with Swath IDs for Case and New Holland displays

This option is available on Multi Swath Line layers for Case and New Holland displays only.

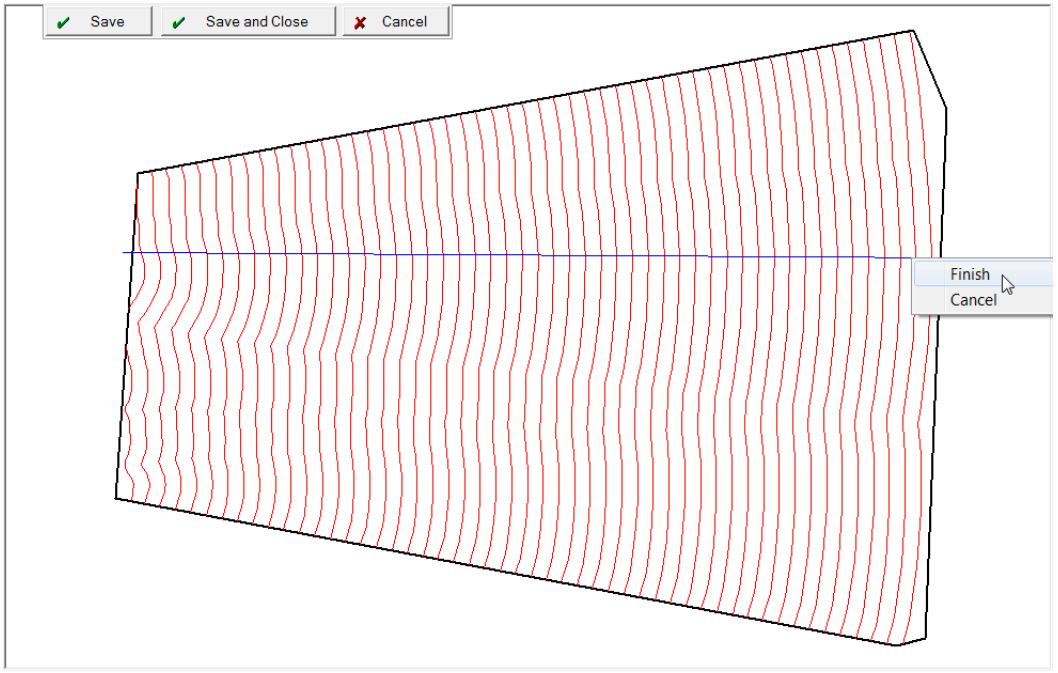
Swath IDs appear on the Case and New Holland displays and can be used to select individual Multi Swath Lines. When Multi Swath Lines are read from a display, the ID is shown in the software. These IDs can be changed if needed. In addition, Multi Swath Lines that you create in the software will have IDs that are written and used on the displays.

To display labels for Swath IDs:

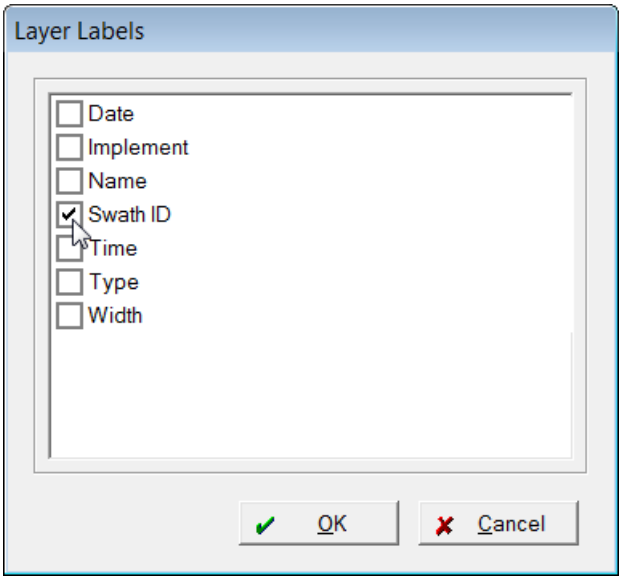
1. With the Multi Swath Lines displayed, click the Edit Layer icon .
2. From the *Select Tool* drop down list, select the *Select Tool - Line* option:



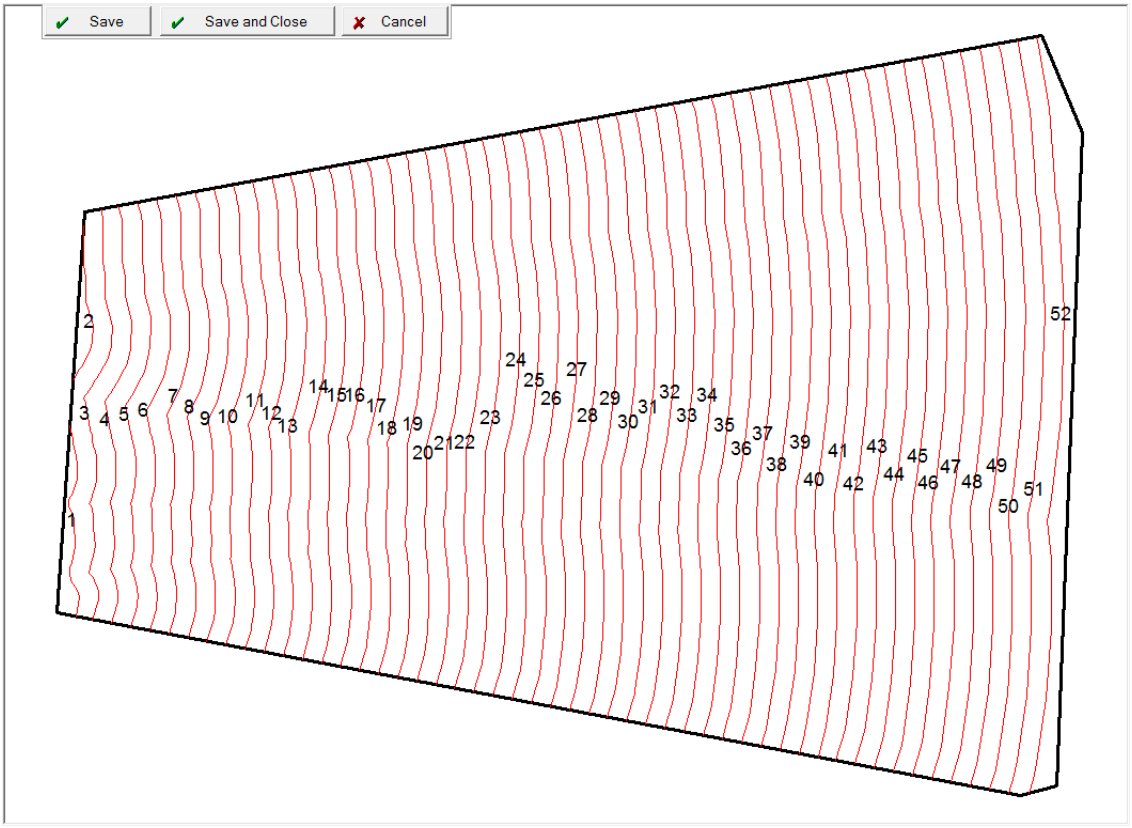
3. Click outside the lines where the selection is to begin, click outside the line where the selection is to end and then right-click and select *Finish.*



4. The lines that the select line tool crossed should now be flashing.
5. Right click and select *Add Label*.
6. From the *Layer Labels*, select *Swath ID* and then click **OK**.



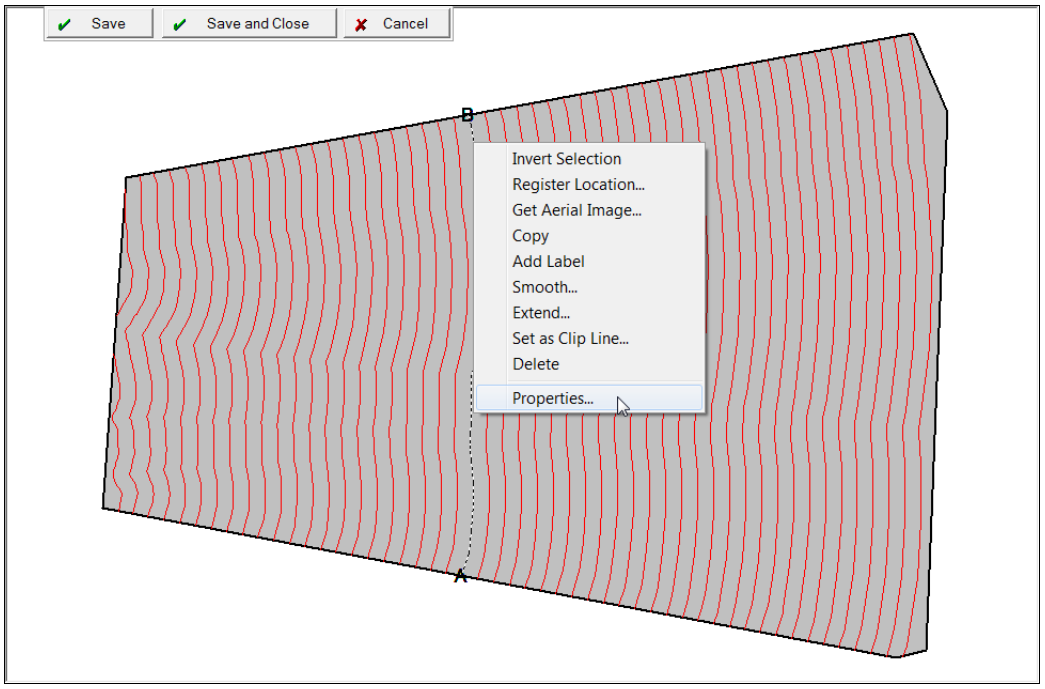
All lines should now be numbered with the Swath ID:



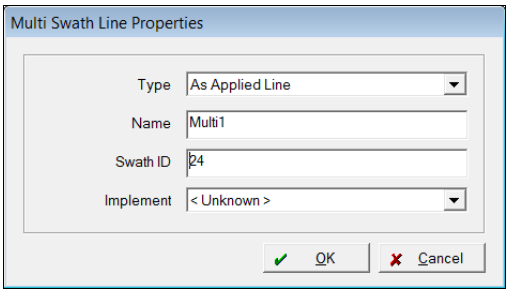
Editing individual line Swath IDs

1. With the Multi Swath Lines displayed, click the Edit Layer icon .
2. Click one of the existing lines on the map so that it is highlighted and flashing.

3. Right click and select *Properties*.



The *Properties* dialog displays details about the selected line such as the *Type* (of line), *Name*, and the *Swath ID*:

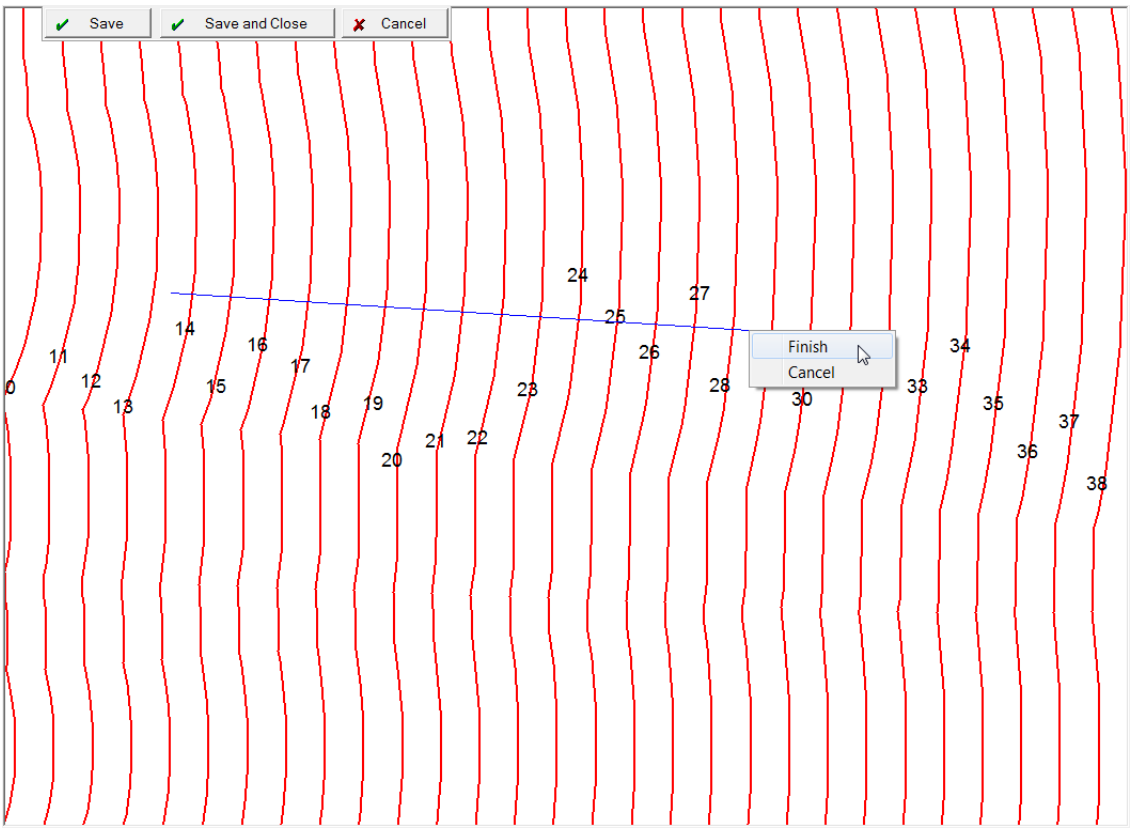


Lines are automatically assigned a *Swath ID* number, either from the display itself or when manually created in the program.

4. To change the *Swath ID* for the individual line, delete the existing number in the *Properties* screen and then enter the new number. Only the number for this particular line is changed.
5. Click **OK** to save the changes.

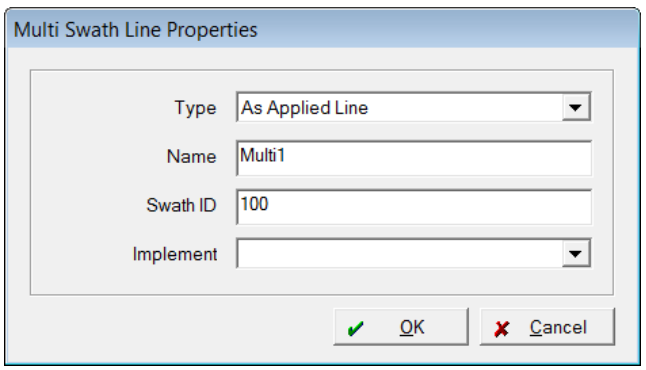
Editing Swath IDs for multiple lines

1. From the *Select Tool* drop down list, select the *Select Tool: Line* option.
2. Click outside the lines where the selection is to begin, click outside the line where the selection is to end and then right-click and select *Finish*.



The lines that the select line tool cross should now be flashing.

3. Right click and select *Properties*.
4. In the *Properties* dialog, enter a new *Swath ID* and then click **OK**. Based on the number you enter here, all the highlighted lines will be renumbered sequentially.



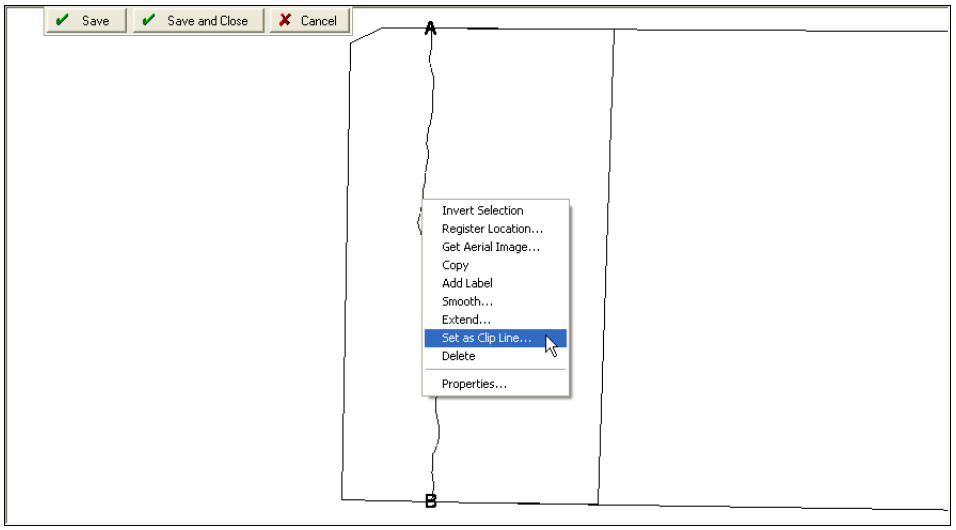
If the select line tool order was from left to right, the Swath ID will start with the new number at the left.

Creating clip lines

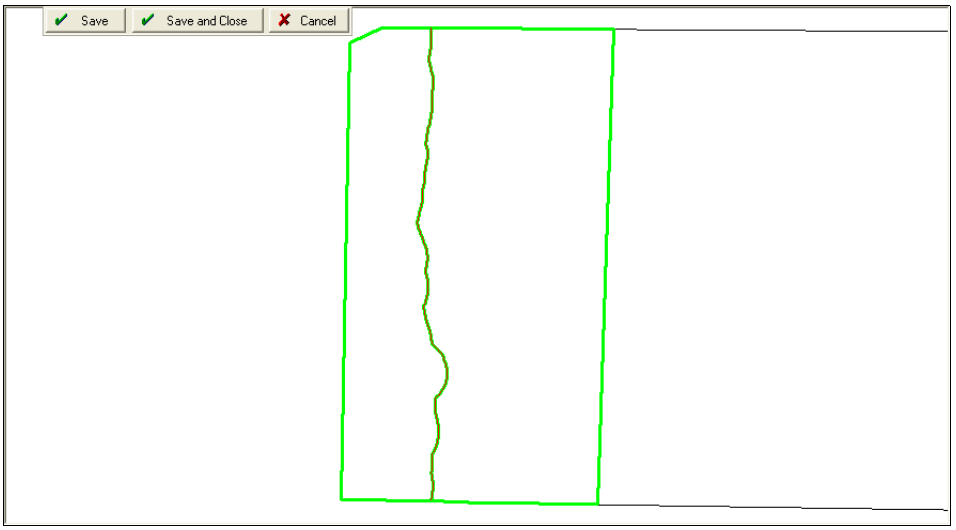
The program allows you to quickly and easily create lines based on other lines such as terraces that were mapped as feature lines. Additionally, the program enables you to clip created lines to other lines such as nearby terrace lines.

If the terrace lines exist on another layer (such as a Feature Lines layer) they must first be copied to the Multi Swath Lines layer. See the section Copying planned planting lines from other sources.

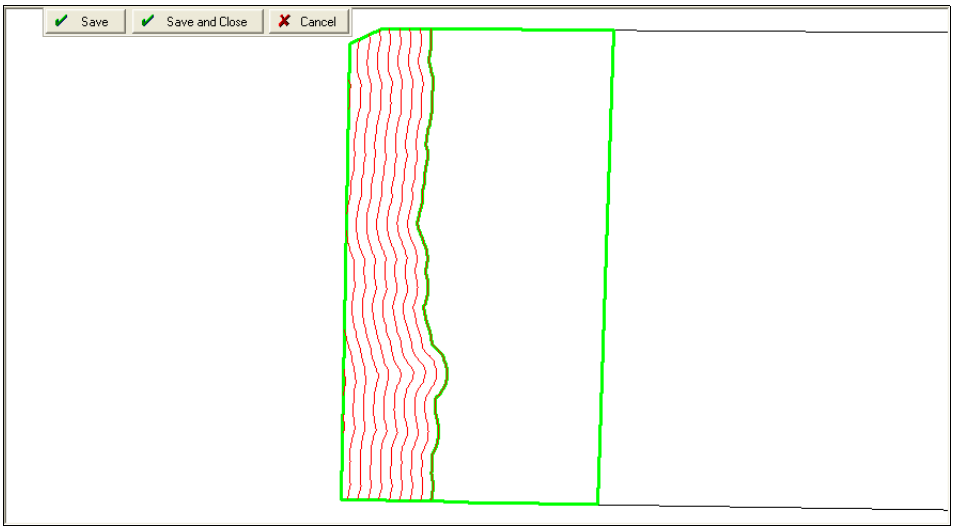
1. Double-click the Multi Swath Lines layer to view on the map.
2. With the Multi Swath Lines displayed, click the Edit Layer icon .
3. Click one of the existing lines on the map so that it is highlighted and flashing.
4. Right-click and then select *Set as Clip Line*. By making a line a clipping line, the program ensures that any created offset lines will be clipped to this line.



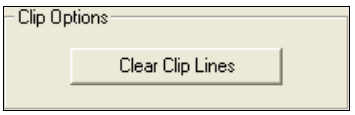
The line and the outer boundary will be highlighted in green showing they are clip lines.



When you select another Planned line and choose the *Offset* option, the program will use the selected clip lines and boundaries as the stopping point for the offset.



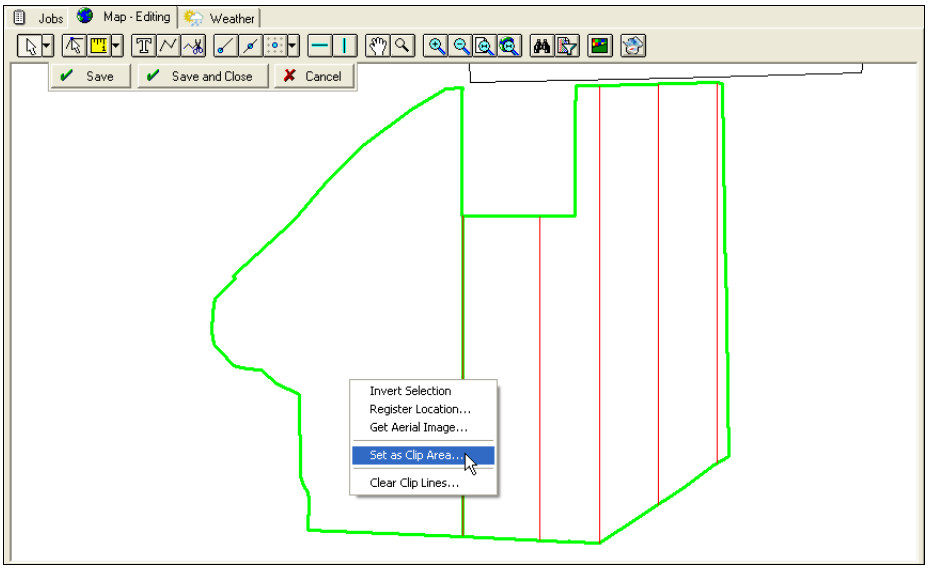
5. To remove the Clip Lines, click **Clear Clip Lines**.



6. Click **Save and Close** to save changes and exit Map Editing.

Clipping lines to an area

1. Select the clip lines that surround the area that you want to clip to and then make each line a clipping line.
2. Click somewhere inside the area.
3. Right-click and then select *Set as Clip Area*.



The lines surrounding this area will be red.

4. Click the line that you want to use as the offset.
5. Enter the required *Distance*, *Count,* and *Direction*.
6. Click **Create**. The program will create new offset lines that are clipped to the highlighted area.

Writing out planned and crop row lines for use with a display

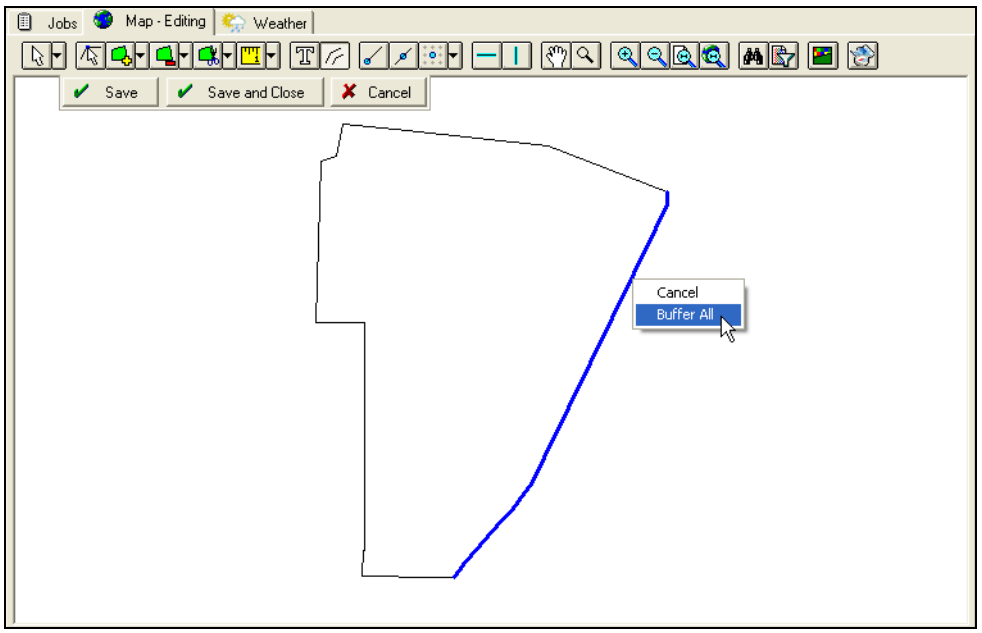
Planned lines and crop rows can be used with an FmX or FM-1000 display. These lines will be used as feature guidance lines that the display will guide to. All of the Planting Lines (including Planned and Crop Rows), will be written when you select the FmX option in the *Write Job Data* dialog. In addition, these lines will be sent when you click **Resource List** in the *Connected Farm* tab.

Working with the Buffer tool

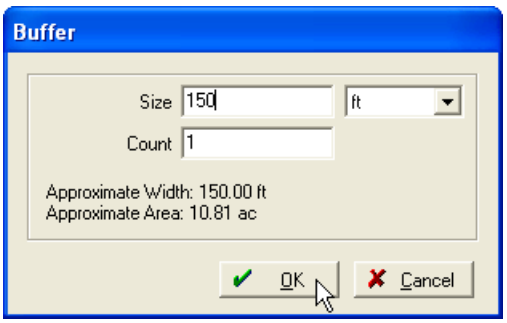
Use the Buffer tool to create setback lines (*Buffer zones)*.

1. If you are working with an area layer, select the Edit Layer Button on the toolbar to display *Map Editing*. If you are working with the boundary layer, right-click the field or commodity name and then select *Edit Boundaries*.
2. On the Map Editing toobar, click the Buffer Tool icon .
3. Click a boundary line—this will highlight the line in blue.

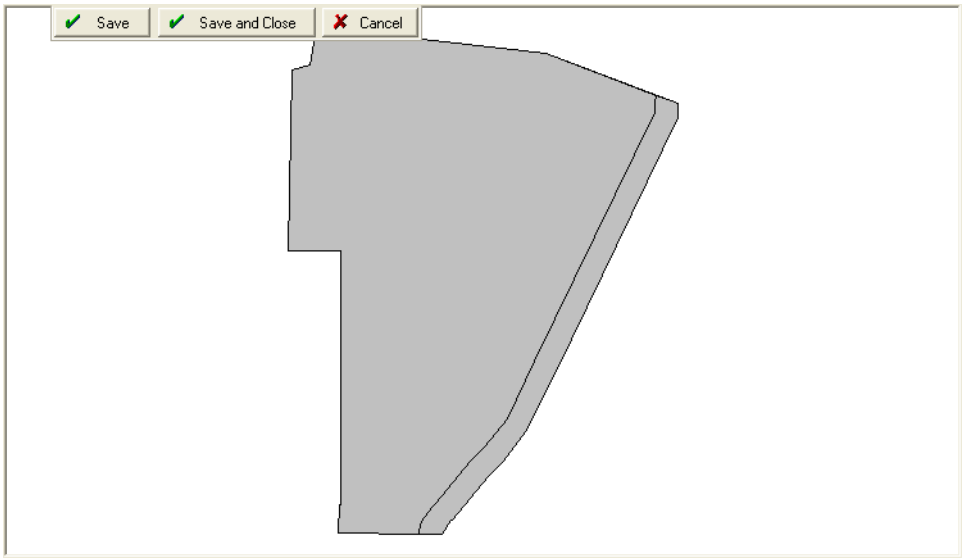
   To select more than one line hold down Ctrl and then click each individual line, or "rubber band" the entire area.
4. Right-click the highlighted line and then select *Buffer All*.



5. In the *Buffer* dialog, enter the *Size* and unit of measure to use to create the buffer, in *Count* enter the number of buffers you want to create and then click **OK**.



The buffer is created.



6. To remove the buffer, select the Pointer tool. Hold down Ctrl and then click each section.
7. Right-click the selected section and then select *Merge Polygons*.
8. When the editing is complete, click **Save and Close Editing**.

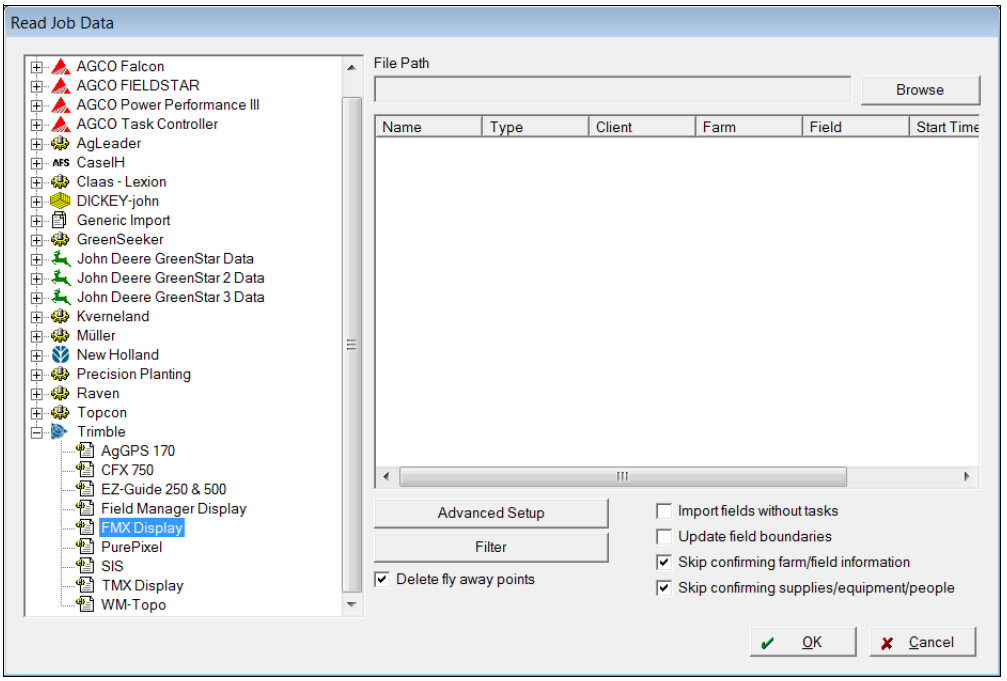
Working with yield and as-applied maps

The software can read job data from many different farming displays. This includes yield and coverage maps collected from devices such as the Trimble FmX® and CFX-750™ displays and from the CNH Pro 700 and FM-1000™ displays.

Importing Job data

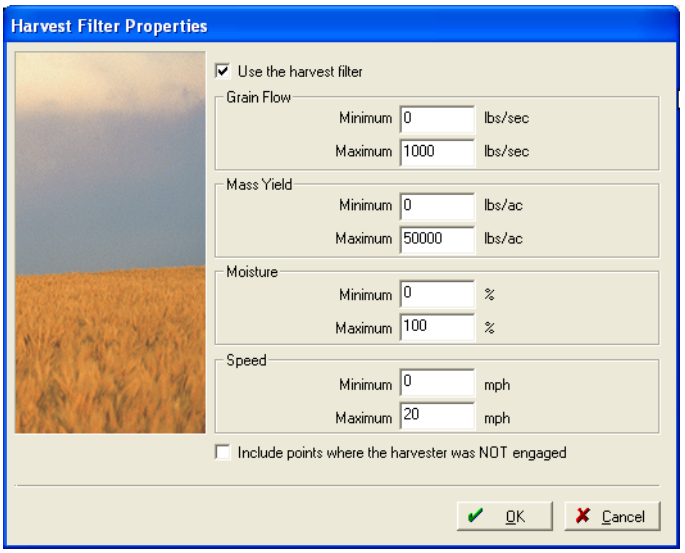
Use the ***Read Job Data*** option to read in precision agriculture data, including yield and as-applied maps. Insert the storage card or USB drive from your precision farming display into the computer card reader and then select *Read Job Data*. The Smart Import wizard guides you through the process.

1. From the *File* menu, select *Read Job Data*, or click the Read Job Data icon on the *Job/Resource Tools* toolbar.
2. In the left column of the *Read Job Data* dialog, click **+** next to the type of monitor that the data was collected with and then select the specific data type underneath it. This filters the files shown in the right side of the dialog so that only the selected file types appear.



3. Under *File Path*, click **Browse** to find the storage card or folder where you saved the yield or as-applied data.
4. In the *Open* dialog, select the appropriate file. For example, to import Trimble data (from an FmX integrated display, a CFX-750 display, or an EZ-Guide system) browse to and then select the *Ag*GPS® folder; for Voyager Data, select the Index File.

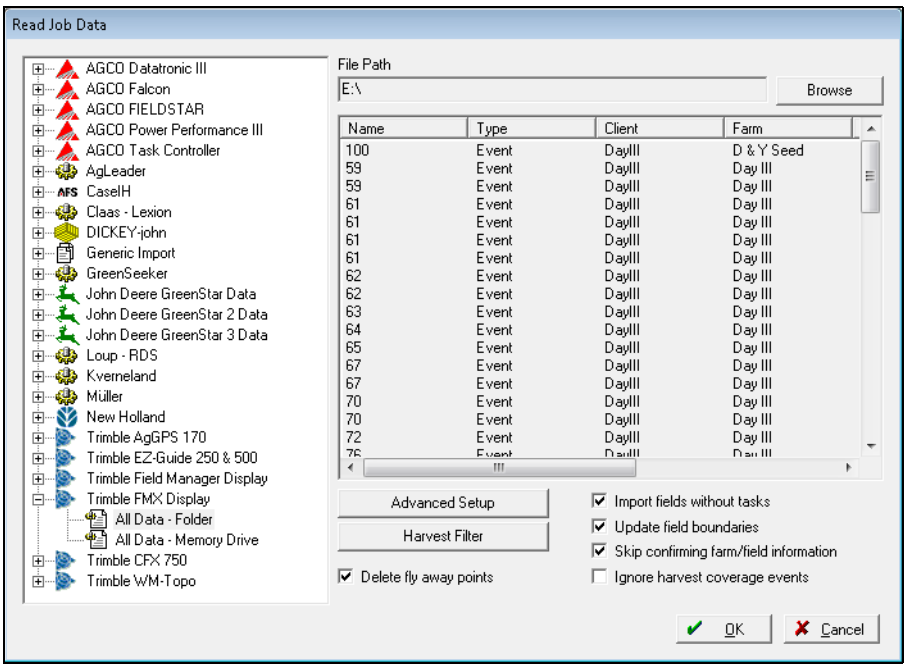
5. All jobs included in the selected file or folder appear in the *Read Job Data* dialog. To select the job(s) to import, highligh each one. To select multiple files, hold down the Ctrl key while selecting.
6. To change calibration and combine delay options, click **Advanced Setup**. Each monitor has its own Advanced Setup, which can include settings for Combine Delays, Start Delays, and Stop Delays:
   - The *Combine Delay* sets the time from when the crop enters the header until the grain passes the sensor. If this value is incorrect, you will notice a “jagged” appearance from one pass to another in your high and low yielding areas.
   - The *Start Delay* is the time from when the header goes down until the crop starts passing the sensor. If this is too long, you may notice gaps when entering each pass: If too short, you may notice very low yielding areas at the start of each pass.
   - The *Stop Delay* is the time from when the header goes up until the crop stops passing the sensor. If this value is incorrect, you may notice gaps when coming out of each pass or very low yielding areas at the end of each pass.
7. To filter out any data that might be considered bad, click **Harvest Filter**.



   a. Select *Use the harvest filter.*
   b. Enter values against any of the items to attempt to filter out incorrect data. Minimum and Maximum filters can be set for Grain Flow, Mass Yield, Moisture, and Speed. You can use as many filters as needed, but be cautious about being too strict with a filter. Otherwise, good data may be filtered out.

      If required, you can modify these filters after the file is imported.
8. Choose whether to:
   - *Delete fly away points* to filter out any points that are away from the field because of bad GPS data. This is recommended.

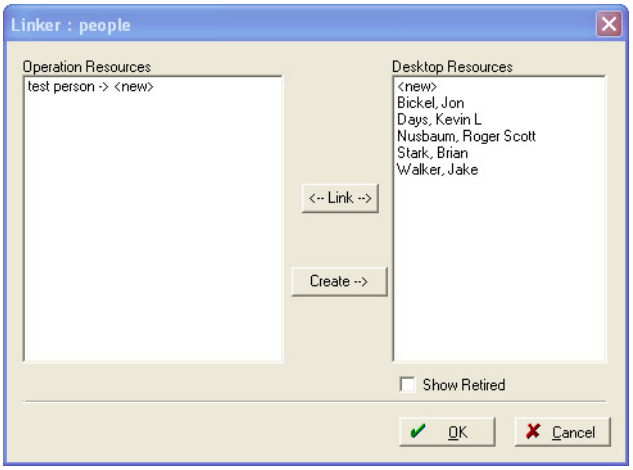
- *Import Fields Without Tasks* allows field names that were set up on the monitor to be imported and set up in the Client Farm and Field List without having to first log a job for that field.
- *Update Field Boundaries*. For certain monitors, this option allows a boundary that was logged and saved to the card to be updated when the jobs are read in.
- *Skip confirming Farm/Field Information*. Select this option to have new Clients, Farms, and Fields added to the *Farm* tab without being asked to confirm the name of each Client / Farm / Field
- *Skip confirming Supplies, Equipment and People*. Select this option to have new Supplies, Equipment, and People added to the *Inputs* tab without being asked to confirm the name of each.



9. Click **OK**. The import progress is shown as it reads each of the files.

   The *Linker* dialog appears if the data includes anything (such as Client, Farms, Fields, Crops, or Inputs) that does not already exist in your project. This links new resources from the data that have already been set up in the software.

The *Linker* dialog shows two lists of resources: *Operation* (items created on the terminal) and *Desktop* (items created in the desktop software). Items under *Operation Resources* must be created or linked with items under *Desktop Resources*.



a. Select an item in *Operation Resources* and then do one of the following:

- If it is a new item, click **Create-->** and then enter all of the applicable information in the screen that appears about that item. This creates a new resource in the desktop software. You can also leave the item linked to new and when the *Linker* screen is completed you are prompted to create the new item. If you selected the *Skip confirming Farm and Field information* check box, the program automatically creates those clients, farms and fields, under the appropriate location
- If the item is the same as an item already listed under *Desktop Resources*, highlight both resources and then click **<--Link-->**.

b. If a resource does not appear under *Desktop Resources,* it may be a retired item: Select *Show Retired*.

c. Once all items are linked or created, click **OK**.

10. In the *Farming* dialog that appears, enter any necessary information for the farming operation(s) and then click **OK**. You can also edit jobs later in the *Jobs* tab. For more information, see Chapter 3, Field Record Keeping.

    The yield or as-applied maps are added to *Jobs* under the appropriate Farm and Field.

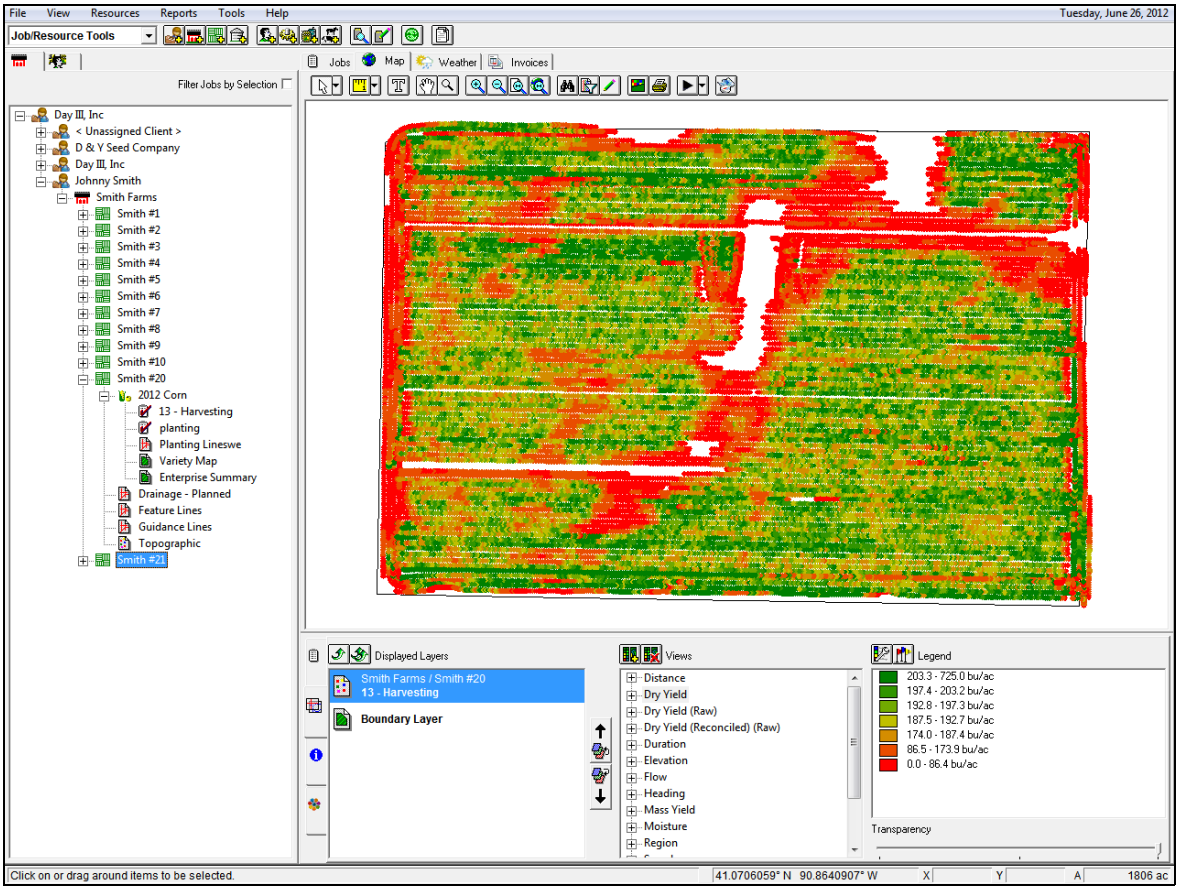
11. To view the imported map:

    a. Make sure that *Show Jobs In Land Areas* is selected on the *View* menu.

    b. Select the *Map* tab.

    c. In the *Farm* tab, locate the job under the applicable Farm and Field.

d. Double-click the job with the yield or as-applied data to view the map.



12. To view a different data type, select the points layer under *Displayed Layers* in the *Layers* tab and then select the required data. For more information on viewing yield data and modifying views, see the following sections.

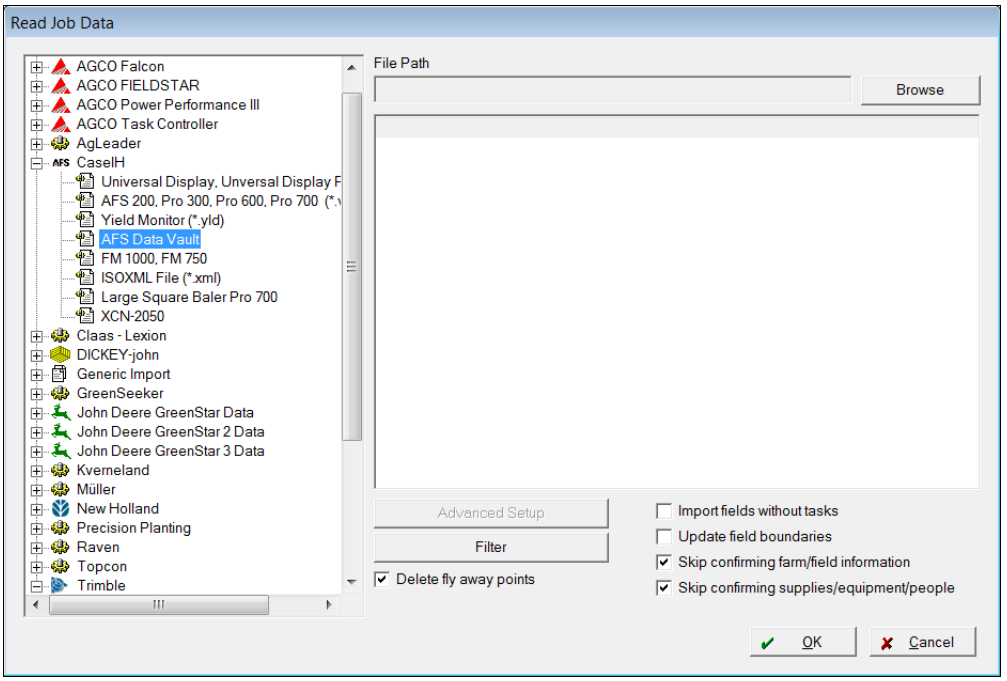
Importing CNH vault data

The program allows you to import CNH data from AFS or PLM software using the *Data Repository* option (from the *Read Job Data* screen).

Note – *Depending on how much data there was previously this process may take a few minutes to several hours.*

1. Select *File / Read Job Data*, or click the Read Job Data icon on the *Job/Resource Tools* toolbar.

2. On the left of the *Read Job Data* dialog, click **+** to expand the *AFS CaseIH* or *New Holland* option and then select *AFS Data Vault* (if you have AFS CaseIH data) or *PLM Data Vault* (if you have New Holland PLM Data). This filters the files so that only the selected files appear in the right-hand side of the dialog.



3. Click **Browse** to locate the data:

   If you are running the Windows 7 or Windows Vista operating system, this data will most likely be at:

   C:\ProgramData\CaseIH AFS\AFS\Data, or

   C:\ProgramData\Ag Leader\SMS\Data

   If you are running the Windows XP operating system, this data will most likely be at:

   C:/Documents and Settings/All Users/Case IH /AFS/Data, or

   C:/Documents and Settings/All Users/ Ag Leader/SMS /Data

4. In the *Open* dialog, select the *Data* folder and then click **OK**.

   Depending on the location selected, the program will find all the *.CN1 folders underneath it. This process can take from several minutes to several hours.

5. To complete the data import, complete Step 5 through Step 12 of Importing Job data, page 186.

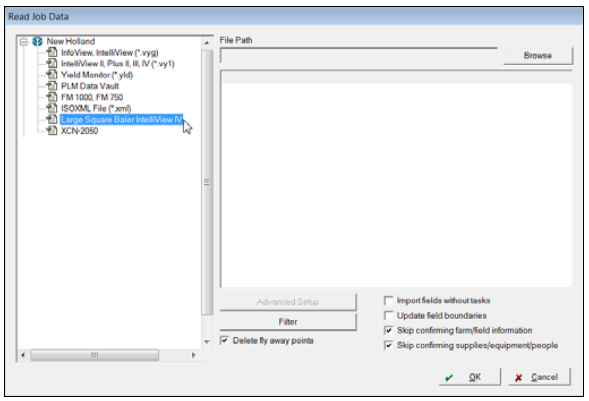
Importing CNH large square baler data

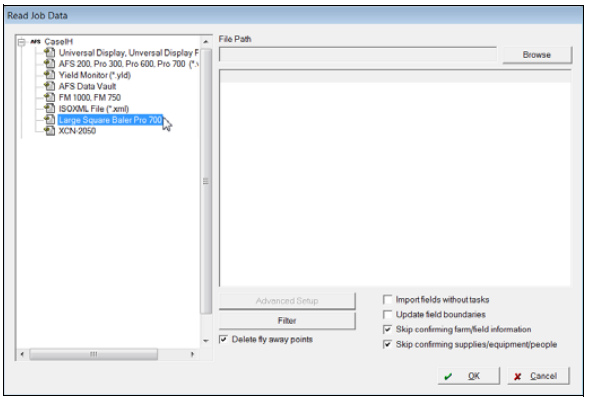
You can use the *Large Square Bale* functionality in the Farm Works Software solution to analyze yield data created with a yield monitor with a large square bale harvester. When *Large Square Bale* data is read into the software, the program creates the following:

- Harvest Summary data that includes the total harvest, date/time of the harvest, and the equipment used.
- A map that shows where each bale dropped with details for each bale including the weight and moisture for each bale.
- An instantaneous yield map that shows details logged by the harvester at a regular interval (typically every few seconds).

Importing Harvest jobs

1. Do one of the following:
   - Select *File / Read Job Data*.
   - Click the Read Job Data icon on the *Job / Resource Tools* toolbar.
2. In the left column of the *Read Job Data* dialog, click + next to *Case IH* or *New Holland* and then select *Large Square Baler Pro 700* (for Case IH) or *Large Square Baler Intelliview IV* (for New Holland).





3. In the *File Path* field, click **Browse** to find the storage card or folder where you saved the data.
4. In the *Open* dialog, select the CN1 folder.

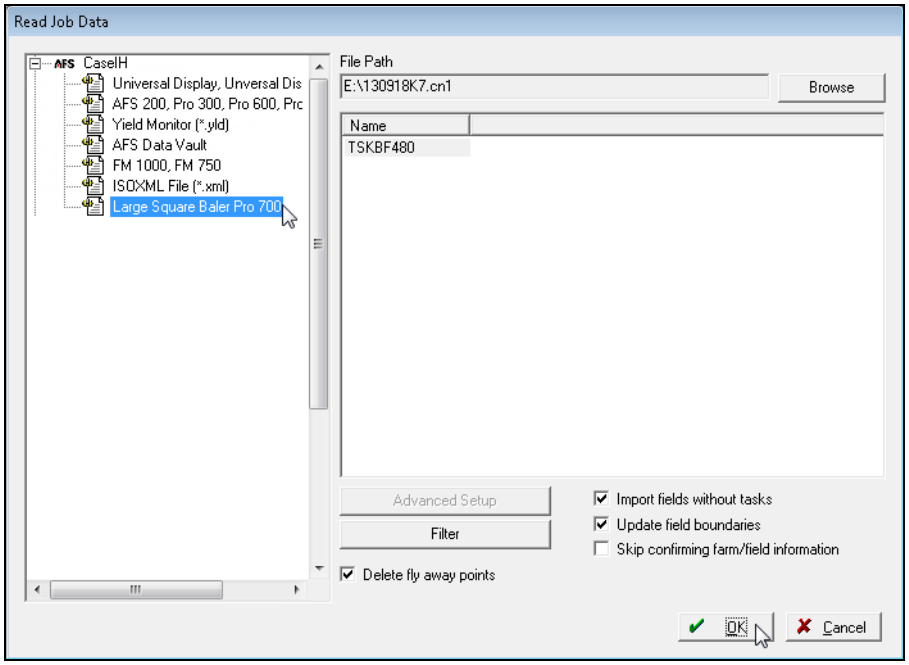
   All jobs included in the CN1 folder appear in the *Read Job Data* dialog.
5. Select the job(s) that you want to import. To select multiple files, hold down the Ctrl key while selecting.
6. To filter out any corrupt data, click **Harvest Filter** and then select one of the following:
   - Delete fly-away points.
   - Import Fields without tasks.

- Update field boundaries.
- Skip confirming Farm/Field Information

For more on *Harvest Filter* settings and options, see The Harvest filter, page 225.

7. Click **OK**. The import progress is shown as each file is read.

   The *Linker* dialog appears if the data includes anything (such as Client, Farms, Fields, Crops, or Inputs) that does not already exist in your project. This links new resources from the data that has already been set up in the software.



   See also Linking resources when synchronizing or importing jobs, page 84.

8. Once all items are linked or created, click **OK**.

Manually entering the area harvested

Some monitors do not log enough information to calculate the area harvested (number of acres/hectares harvested). When this information is not provided, the software cannot automatically calculate the average yield per acre/hectare. To manually enter the area harvested:

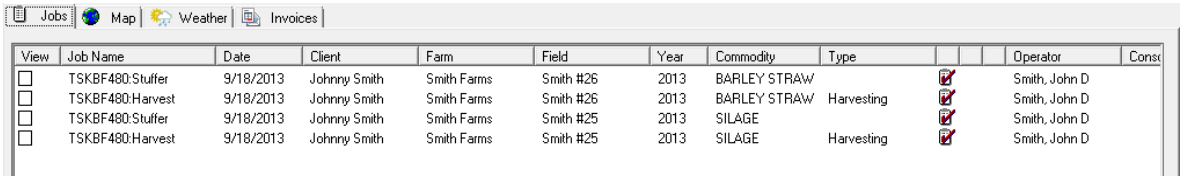
1. Select the *Jobs* tab.
2. Find the harvest job to update.
3. Right-click the job and then select *Properties*.
4. In the *Area Farmed* field, enter the number of acres/hectares that were harvested and then click **OK** to save the change.

If you are unsure of the area of the field, you can create a boundary for the field. The program will then compute the size of the area.

The maps are added to the *Jobs* tab. Importing Large Square Bale data will give you two separate jobs and maps:

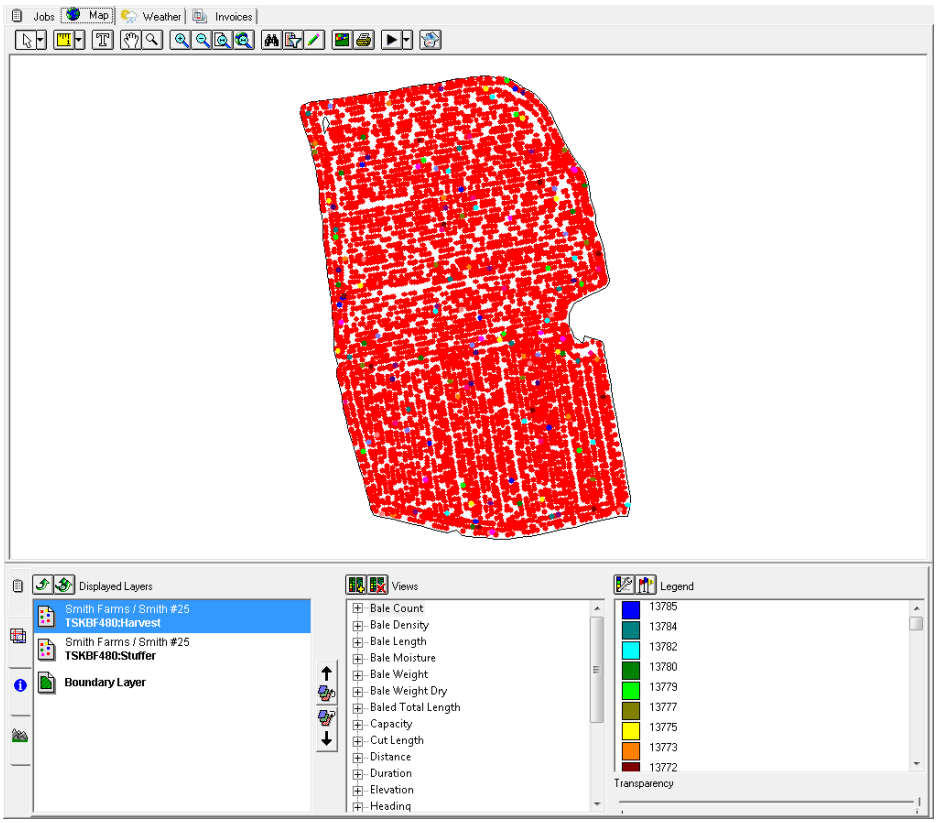
- The *Stuffer* map shows the GPS points that have been logged and details such as total and average weight.
- The *Harvest* map shows only where the bales have been dropped.

In the *Jobs* tab, select the check-box in the *View* column for either the *Stuffer* or *Harvest* map and then select the *Map* tab to view the selected map.



View	Job Name	Date	Client	Farm	Field	Year	Commodity	Type			Operator	Cons
☐	TSKBF480:Stuffer	9/18/2013	Johnny Smith	Smith Farms	Smith #26	2013	BARLEY STRAW				Smith, John D	
☐	TSKBF480:Harvest	9/18/2013	Johnny Smith	Smith Farms	Smith #26	2013	BARLEY STRAW	Harvesting			Smith, John D	
☐	TSKBF480:Stuffer	9/18/2013	Johnny Smith	Smith Farms	Smith #25	2013	SILAGE				Smith, John D	
☐	TSKBF480:Harvest	9/18/2013	Johnny Smith	Smith Farms	Smith #25	2013	SILAGE	Harvesting			Smith, John D	

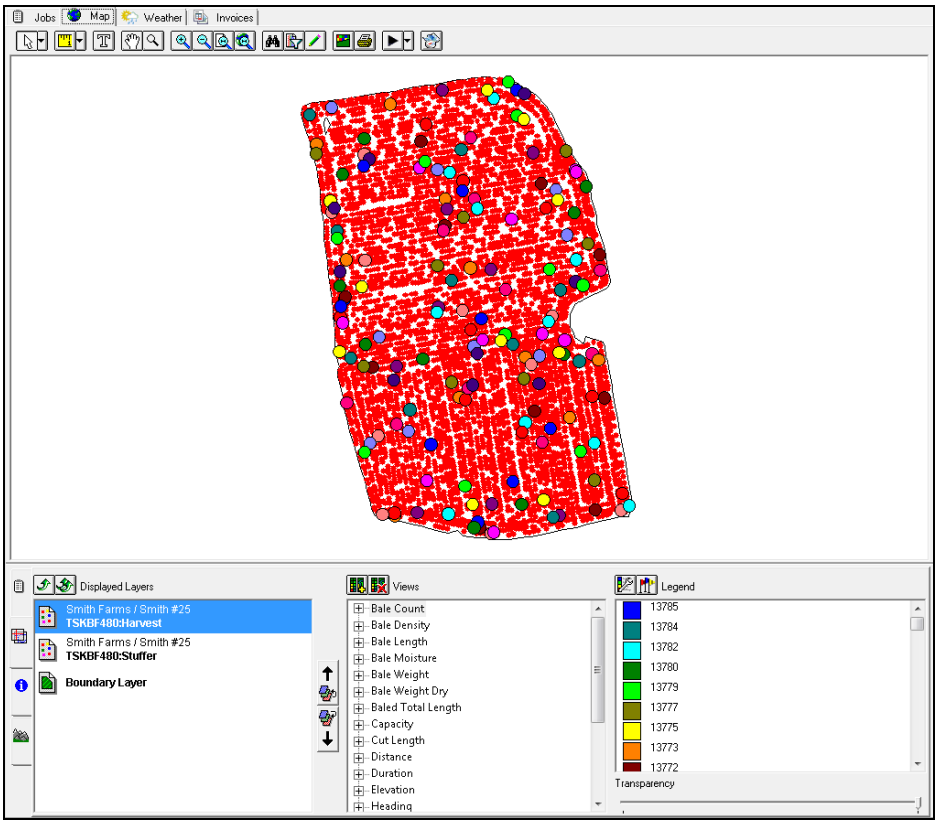
To overlay the bale drop locations, you can select to display the *Stuffer* map and then select to display the *Harvest* map.



To increase the point size of the *Harvest* map so that the bale locations are visible:

1. Click **Display Options** and then enter a larger *Point Size*.
2. If required, select the *Border* option to create a border around the harvested points.
3. Click **OK**.

   The bale drop location points should now be larger and easier to see.



Analyzing yield and as-applied data

After you import job data, you may notice some patterns or areas of the map that are more or less different from others.

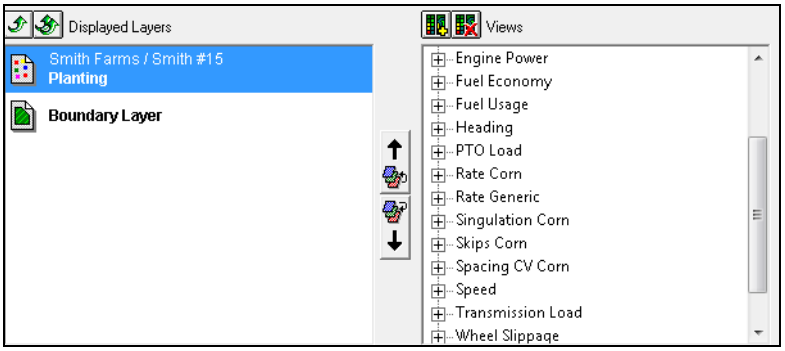
To compare and analyze the data in these imported maps.

1. In the *Farm* tab, double-click the required job to show the map.
2. In the *Layers* tab under *Views*, select the attribute and the view to analyze.

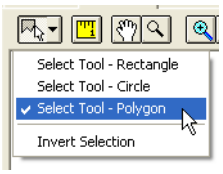
   Attributes can include application rates, elevation and other details logged by the display. Different displays will record different attributes:

   - Some displays on some equipment (including select models made by CNH and Trimble) will log advanced planting data that will be listed in this area.

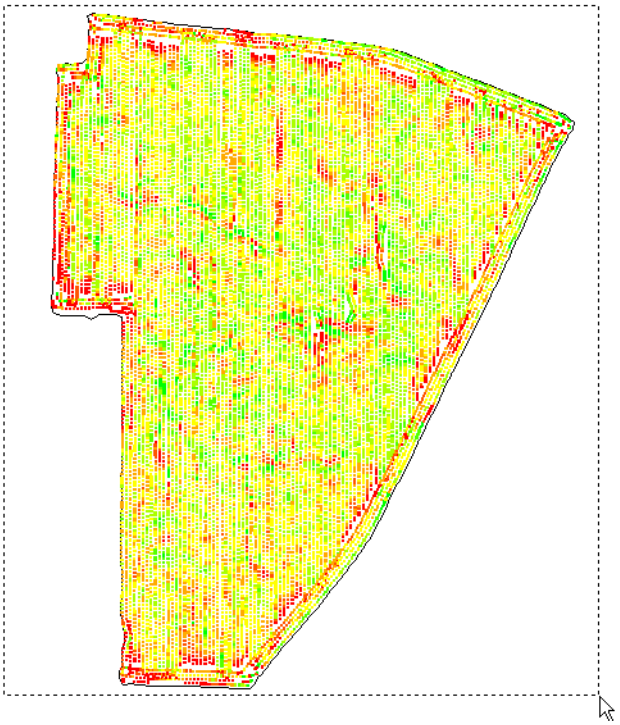
- Some displays on some equipment (including select models of CNH displays) will log engine details that will also be listed in this area.



3. Select the *Information* tab to view attributes for the data you are about to select.
4. Choose one of the Select tools.



5. To view information about the entire field, click-and-drag around all of the points to select (highlight) them.



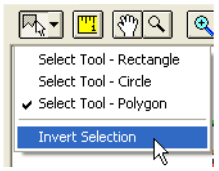
The minimum, maximum, and average for all of the mapped attributes appear in the *Information* tab. The average is an average of each point and its yield only and does not represent the average yield of the field.

	Min	Max	Avg	
Region	1	3	3	
Altitude	921.9	1,045.9	946.9	ft
Distance	0.00	25.82	16.95	ft
Duration	2.0	2.0	2.0	sec
Width	2.49	20.01	20.00	ft
Flow	15.0	65.0	49.2	lbs/sec
Moisture	17.1	24.6	20.7	%
Speed	0.0	12.9	8.5	mph
Mass Yield	0.0	49,217.1	12,737.4	lbs/ac
Wet Yield	0.0	878.9	227.5	bu/ac
Dry Yield	0.0	812.3	213.5	bu/ac

6. To select sections of the field to analyze, for example, a pattern or area that appears different, use one of the Select tools and then highlight the area to analyze on the map.

   If you use the Polygon Select tool, click each corner of the area, right-click and then select *Finish* to close the polygon and select the points.

7. When you finish viewing the data, for example, average dry yield, select *Invert Selection* to reverse the point selection.



8. You can now compare this information to the data that was originally selected.

You can also use the Show Me feature when analyzing yield maps.

1. Click the Show Me icon and then select the attribute to be compared.
2. Enter the Range to view: From: 1 To: 1; From: 2 To: 2; From: 3 To: 3.

   All the data not specified will be hidden.

3. Use the Select tool to highlight all data still on the map.
4. In the *Information* tab, view the data for the selection. For example, Region 2.

	Min	Max	Avg	
Region	2	2	2	
Altitude	921.9	1,045.9	949.9	ft
Distance	0.00	25.82	17.06	ft
Duration	2.0	2.0	2.0	sec
Width	2.49	20.01	19.99	ft
Flow	15.0	65.0	49.0	lbs/sec
Moisture	17.1	24.6	20.6	%
Speed	0.0	12.9	8.5	mph
Mass Yield	0.0	49,217.1	12,632.4	lbs/ac
Wet Yield	0.0	878.9	225.6	bu/ac
Dry Yield	0.0	812.3	211.9	bu/ac

5. Repeat Step 2 through Step 4 above to show and analyze each part of the field. For example, Regions 1 and 3.

	Min	Max	Avg	
Region	1	1	1	
Altitude	922.6	956.7	939.3	ft
Distance	0.00	20.93	16.57	ft
Duration	2.0	2.0	2.0	sec
Width	20.01	20.01	20.01	ft
Flow	15.1	62.3	49.4	lbs/sec
Moisture	17.5	23.9	20.8	%
Speed	0.0	10.5	8.3	mph
Mass Yield	0.0	39,732.1	13,005.8	lbs/ac
Wet Yield	0.0	709.5	232.2	bu/ac
Dry Yield	0.0	664.2	217.6	bu/ac

	Min	Max	Avg	
Region	3	3	3	
Altitude	936.7	960.0	949.2	ft
Distance	9.28	21.33	17.36	ft
Duration	2.0	2.0	2.0	sec
Width	20.01	20.01	20.01	ft
Flow	15.1	61.2	50.4	lbs/sec
Moisture	17.9	23.1	20.7	%
Speed	4.6	10.7	8.7	mph
Mass Yield	3,844.5	25,710.1	12,649.2	lbs/ac
Wet Yield	68.7	459.1	225.9	bu/ac
Dry Yield	62.8	426.0	211.9	bu/ac

   Comparing Dry Yield for each region shows Region 1 was the best while Regions 2 and 3 are exactly the same.

6. To cancel the selection, click the Show Me icon again and then select *Make All Data Visible*.

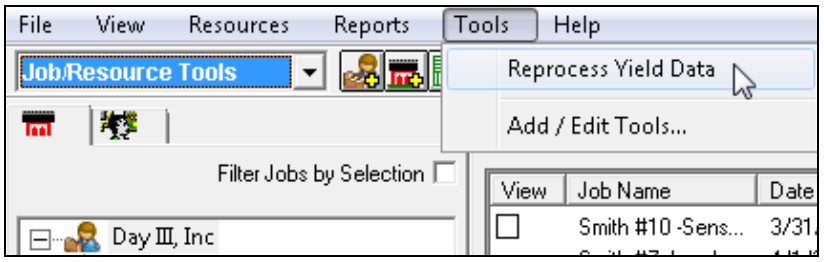
You can also use this method to analyze grid and contour maps, but be careful as these points have already been averaged.

Reprocessing Trimble yield data

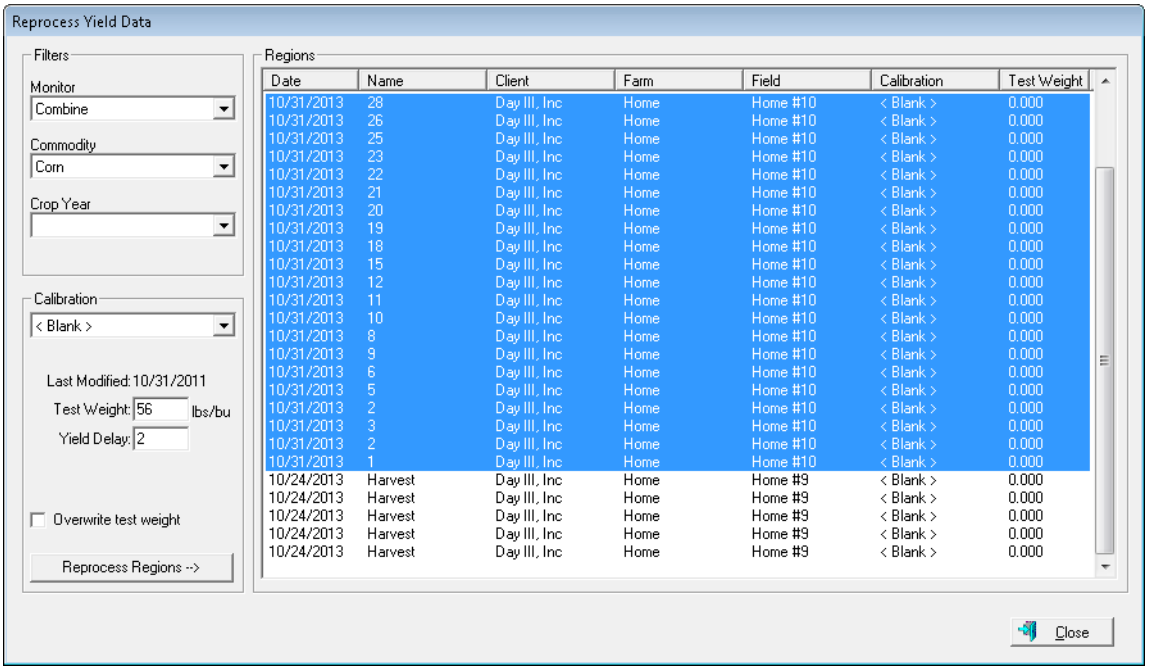
The software allows you to reprocess Trimble Yield data by applying previously created calibrations to other yield data that was collected with the same controller. This is useful when you have some yield maps with better calibration data that you want to apply to other existing maps. You can also use this to correct data if an operator using a Trimble FmX or CFX-750 display makes a mistake and uses the wrong calibration data in the field.

To reprocess Trimble yield data:

1. Select *Tools / Reprocess Yield Data*.



The *Reprocess Yield Data* dialog lists all the yield regions for yields logged with an FmX or CFX-750 display.



2. From the *Monitor* drop-down list, select the serial number of the FmX or CFX-750 display.

3. Select the *Commodity* you are working with. Once you have done this, all the regions for the selected *Monitor* and *Commodity* appear.

   To sort the *Yield Regions,* click any column header (for example, Date or Calibration). To reverse the sort order, click the same header again.

4. To further limit the yield regions that are displayed, use the *Crop Year* drop-down list.

5. From the *Calibration* drop-down list, select the calibration you want to use for reprocessing. Details on this calibration will be displayed below the list.

6. Select the *Regions* to which you want to apply the selected calibration. To select multiple regions, hold down Ctrl on your keyboard and then click each region in turn. To select a series of regions, click the first region, hold down Shift and then click the last region in the series.

7. Click **Reprocess Regions** to apply the selected calibration to the selected regions—this applies the *Yield*, *Start,* and *Stop Delays*. In addition, the *Crop Density* and its related calibration data is used to change the yield values for the yield data within each region.

Merging jobs

When you have imported yield data or application maps, you may have multiple jobs that you want to merge into one. Before you can do this, you must ensure that the jobs have the same client, farm and field name, job type, and crop enterprise.

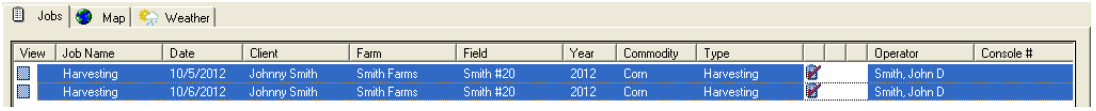
To merge jobs, do the following:

1. In the tree view, find the farm and field the jobs you want to merge were recorded for and them select the correct crop enterprise.

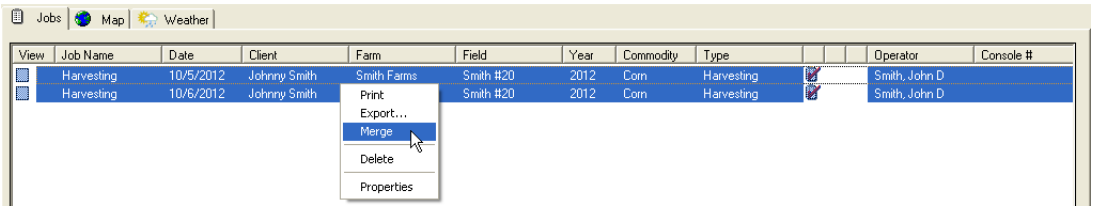
2. Select the *Filter Jobs by Selection* checkbox.

   The list of jobs for the selected crop enterprise appear in the *Jobs* tab.

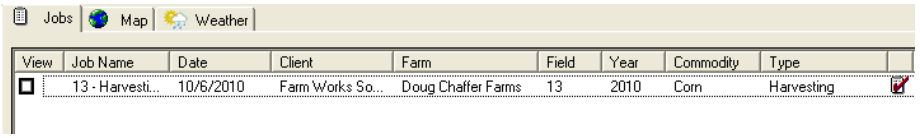
3. Hold down the Ctrl key and click each job that you want to merge.



4. Do one of the following:
   - At the bottom of the *Jobs* tab, click **Merge** Merge.
   - Right-click the selected jobs and then select *Merge*.



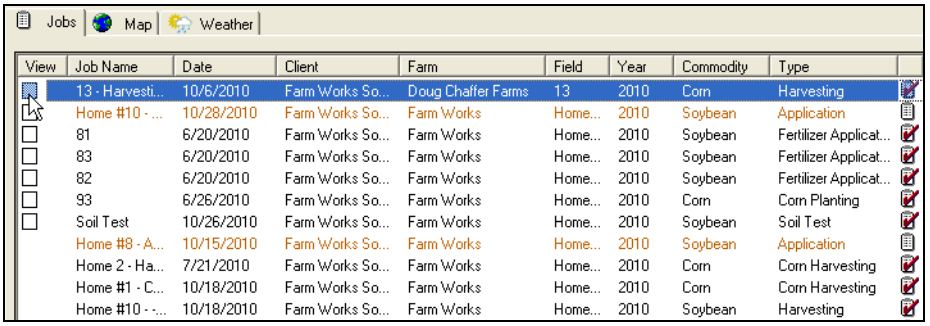
Once the jobs have been merged, only one job appears in the *Jobs* tab.



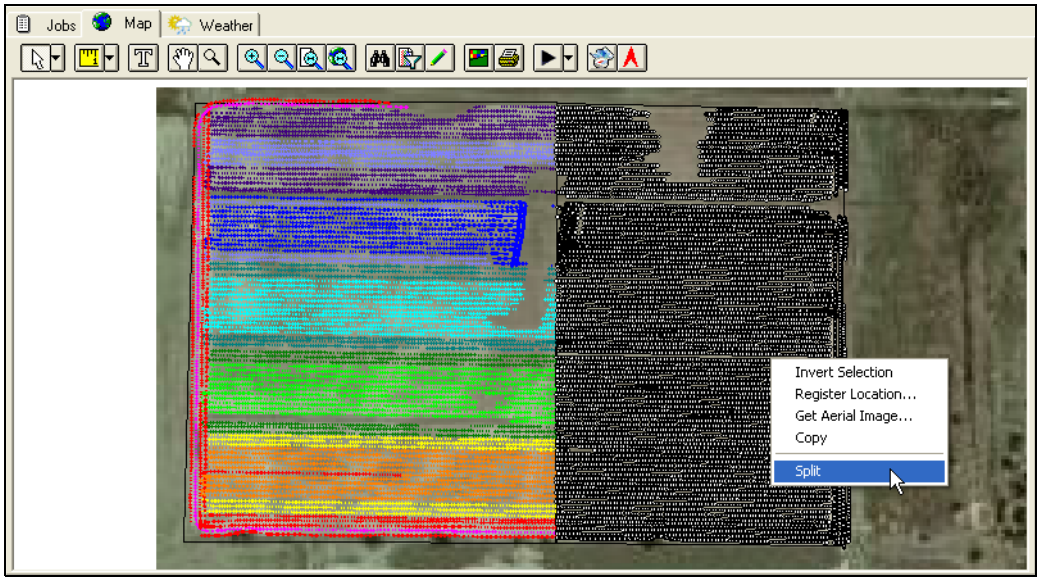
Splitting point data

If you have data that includes multiple fields within a single job, the software allows you to split the job so that it can be assigned to the correct field.

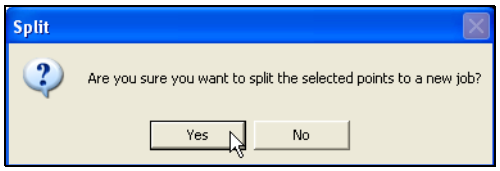
1. To display the point layer, find the job in the *Jobs* tab and then select the check box against that job in the *View* column.


Jobs
Map
Weather
13 - Harvesti... 10/6/2010 Farm Works So... Doug Chaffer Farms 13 2010 Corn Harvesting
Home #10 - ... 10/28/2010 Farm Works So... Farm Works Home... 2010 Soybean Application
81 6/20/2010 Farm Works So... Farm Works Home... 2010 Soybean Fertilizer Applicat...
83 6/20/2010 Farm Works So... Farm Works Home... 2010 Soybean Fertilizer Applicat...
82 6/20/2010 Farm Works So... Farm Works Home... 2010 Soybean Fertilizer Applicat...
93 6/26/2010 Farm Works So... Farm Works Home... 2010 Corn Corn Planting
Soil Test 10/26/2010 Farm Works So... Farm Works Home... 2010 Soybean Soil Test
Home #8 - A... 10/15/2010 Farm Works So... Farm Works Home... 2010 Soybean Application
Home 2 - Ha... 7/21/2010 Farm Works So... Farm Works Home... 2010 Corn Corn Harvesting
Home #1 - C... 10/18/2010 Farm Works So... Farm Works Home... 2010 Corn Corn Harvesting
Home #10 - ... 10/18/2010 Farm Works So... Farm Works Home... 2010 Soybean Harvesting

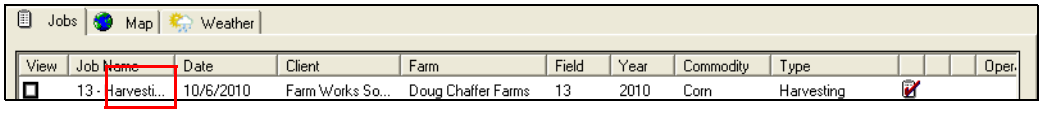
2. With the layer displayed on the *Map* tab, “rubber-band” the points that belong to another field. The selected area appears in black.



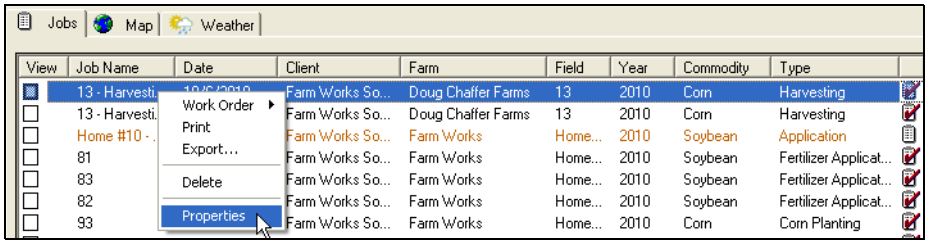
3. Right-click and then select *Split*.
4. To split the selected points to a new task, click **Yes** when prompted.



The newly split job appears in the *Jobs* tab—it has the same name as the current job, with the checkbox in the *View* column in bold.



5. To change the field name, right-click the newly split job and then select *Properties*.

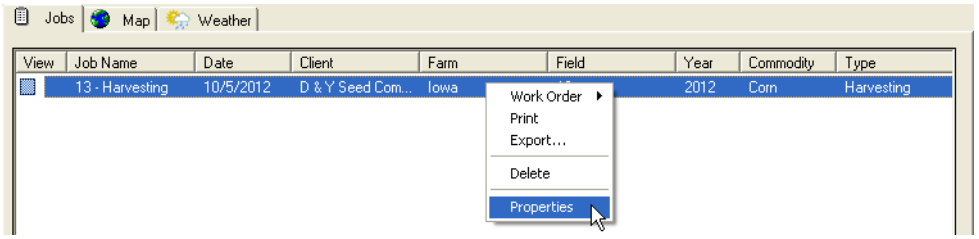


6. In the *Properties* dialog, change the *Field Name* and any other information required and then click **OK**. This places the point data under the correct field.

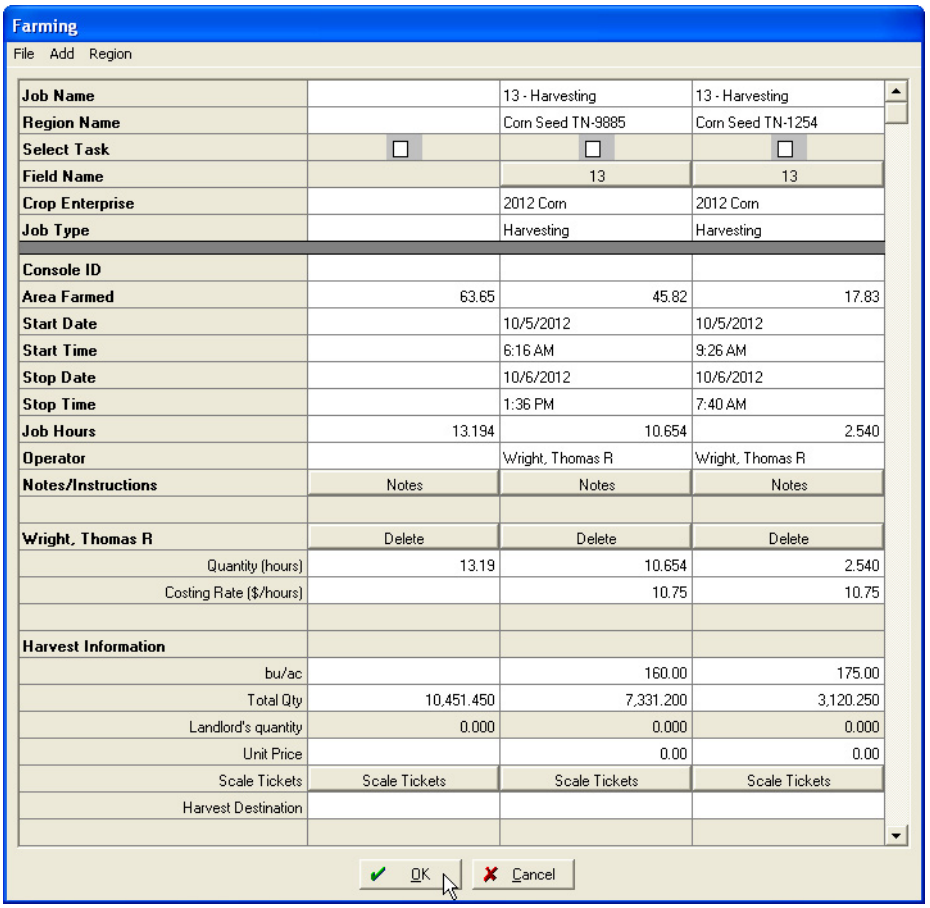
Creating reconciled yield maps

Once a yield map is imported from a yield monitor into the software, the program allows you to edit the harvested quantities to match scale tickets or other sources. Editing the harvested quantity also allows you to create a Reconciled Yield Map.

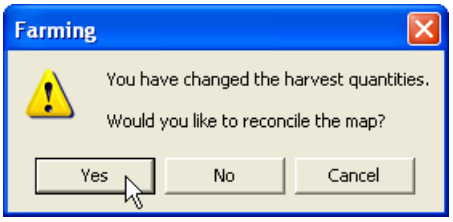
1. Find the job you want to edit, see Finding an existing job, page 79, right-click the job and then select *Properties*.



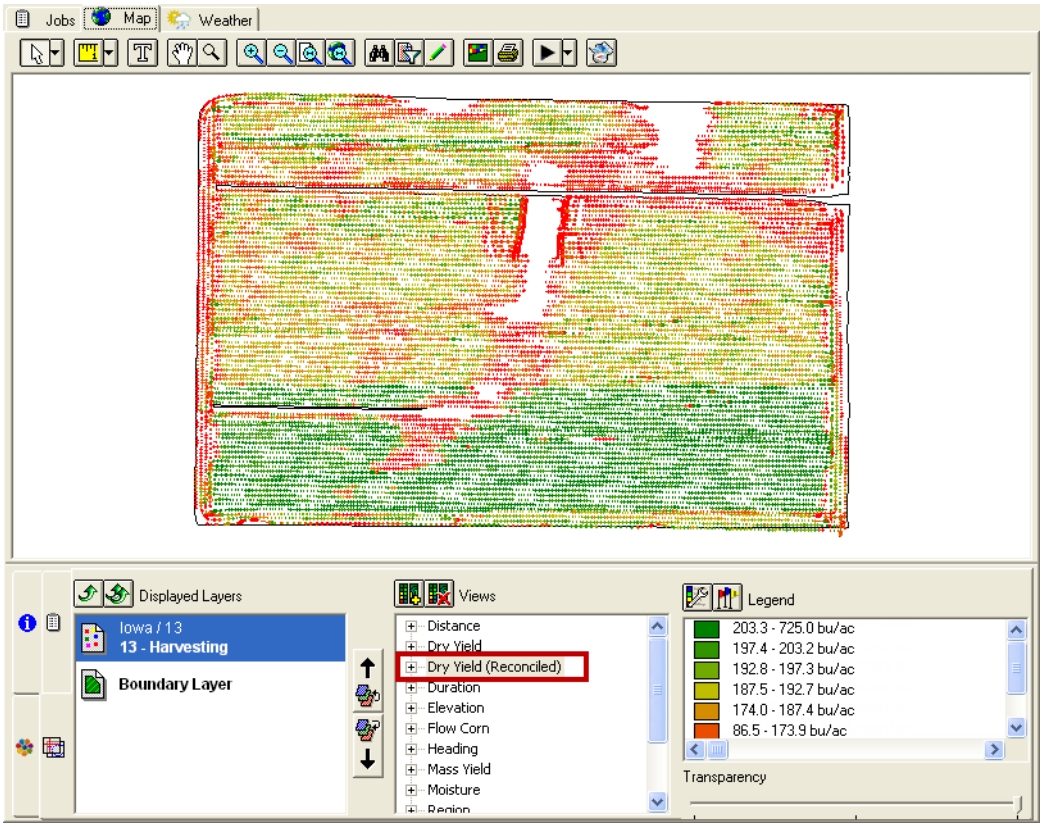
2. In the *Farming* dialog, select *Scale Ticket* and enter the scale ticket details if required, or change the *bu/ac* or the total *Qty Harvested manually* and then click **OK.** See also Entering Scale Tickets, page 75.



3. When prompted to create the reconciled map, click **Yes** to create the reconciled map; click **No** to make the change without creating the reconciled map, or click **Cancel** to cancel the changes and return to the *Farming* dialog.



If you select **Yes**, a Dry Yield (Reconciled) view appears in the view column of the displayed layers tab when the map is displayed.



Creating polygon variety maps

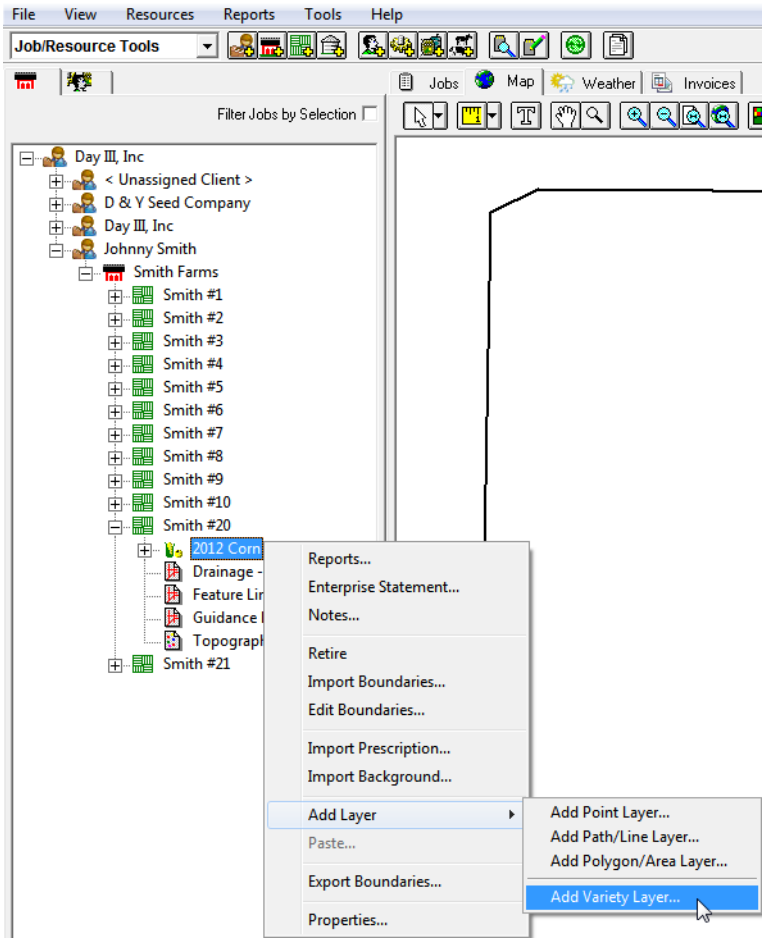
The program can automatically create a polygon variety map based on a planting job associated with a crop enterprise imported into the software using the *Read Job Data* option. These polygon variety maps can then be used for the variety locator on specific devices that are capable of variety locator features. The maps are included when you select a supported device (such as the FmX integrated display or the CNH Pro 700 display) in the *Write Job Data* field.

In addition, if you have yield maps, the program compares the varieties on this map to your yield maps and creates a yield by variety that is included on the *Yield Variety Report*.

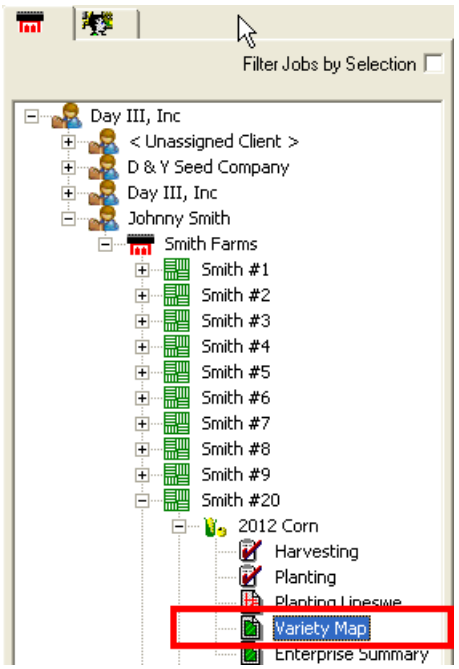
If the planting job was not associated with a crop enterprise, but you have a planting job with a seed supply, you can add a variety map. You can also create a polygon variety map using the mapping tools if an imported variety planting map is not available.

Adding polygon variety maps

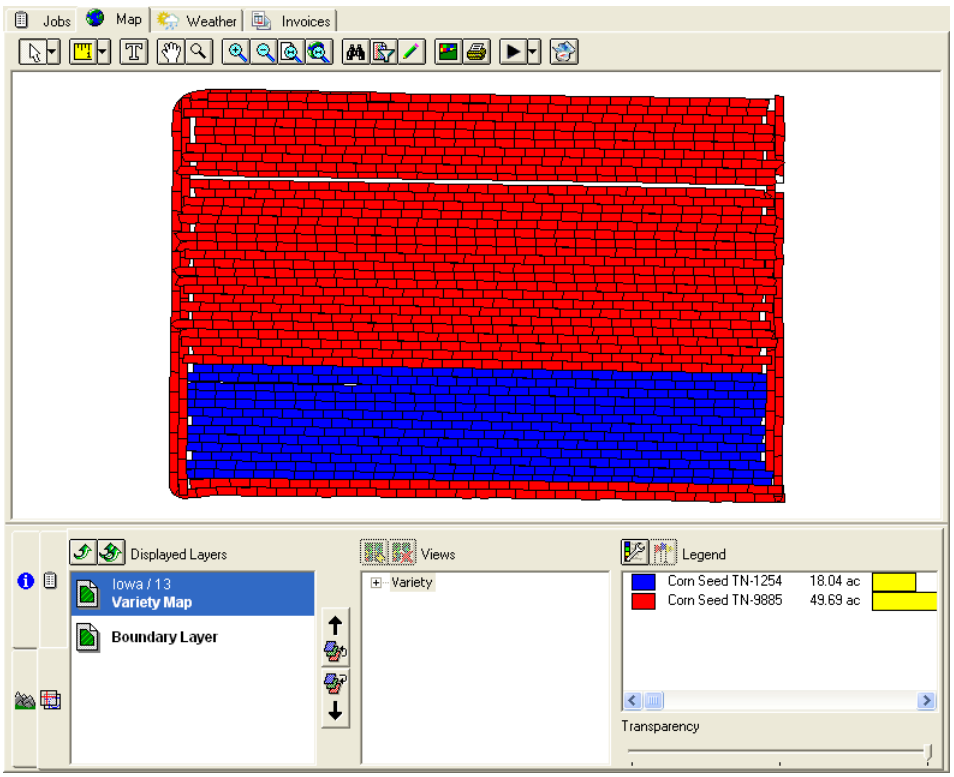
1. In the *Farm* tab, right-click the enterprise containing the field for which you want to create a variety map (for example, *2012 Corn*), and then select *Add Layer/ Add Variety Layer.*



The variety layer is listed under the enterprise.



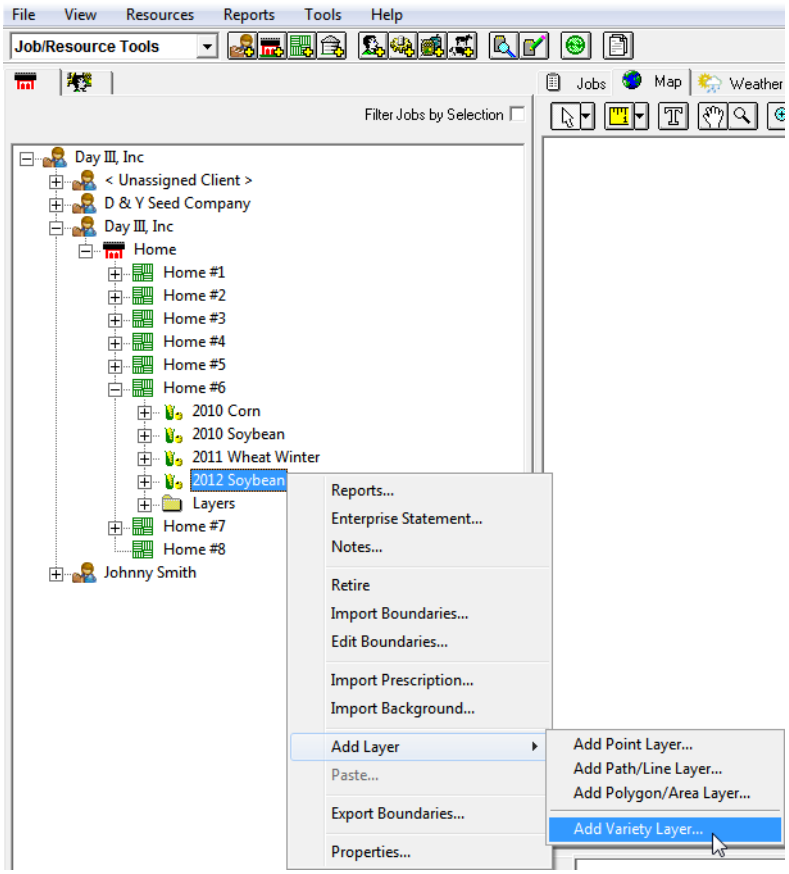
2. Double click the *Variety Map* polygon layer to display it in the *Map* tab. It is displayed as a polygon/area map with the different varieties displayed in one map.



Hand-drawing polygon variety maps

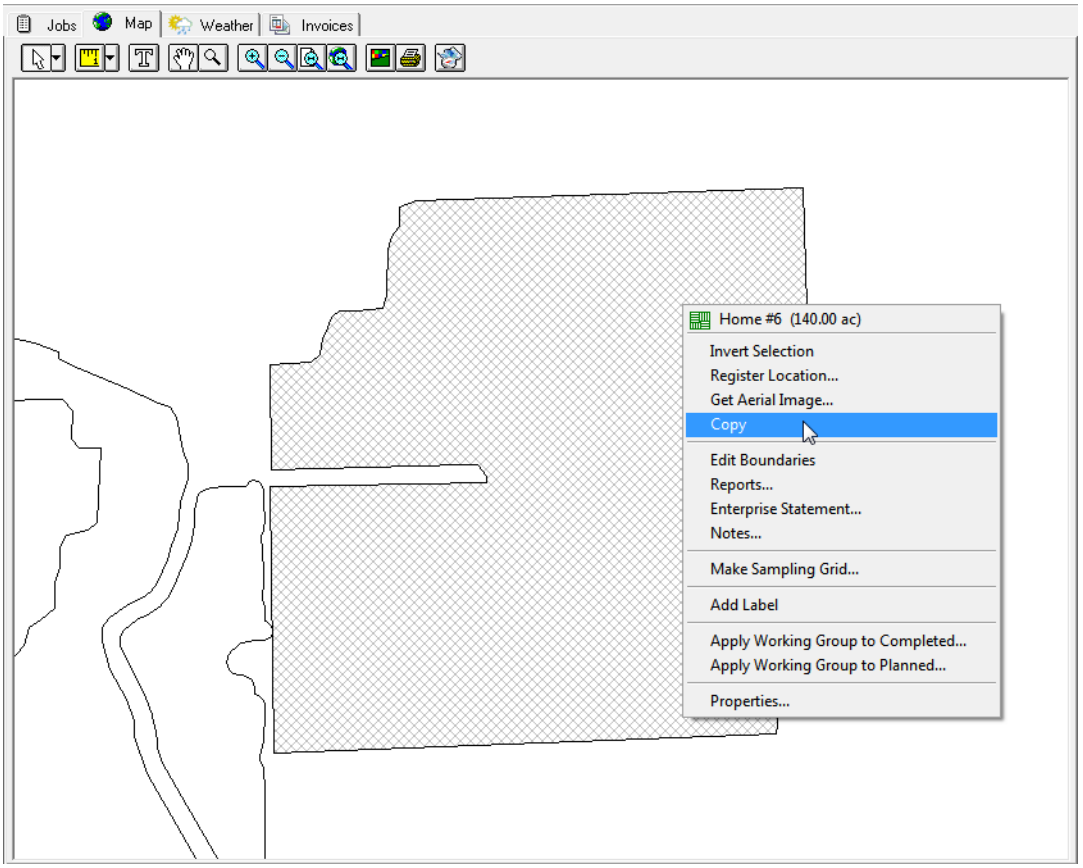
If you did not use GPS to map where your varieties were planted, you can also create a polygon variety map manually. These maps are not as accurate as a map created using GPS, but they provide a good estimate if you use variety locators and calculate yield by variety in the *Yield Variety Report*.

1. In the *Farm* tab, right-click the enterprise containing the field for which you want to create a variety map (for example, *2012 Soybeans*), and then select *Add Layer / Add Variety Layer.*



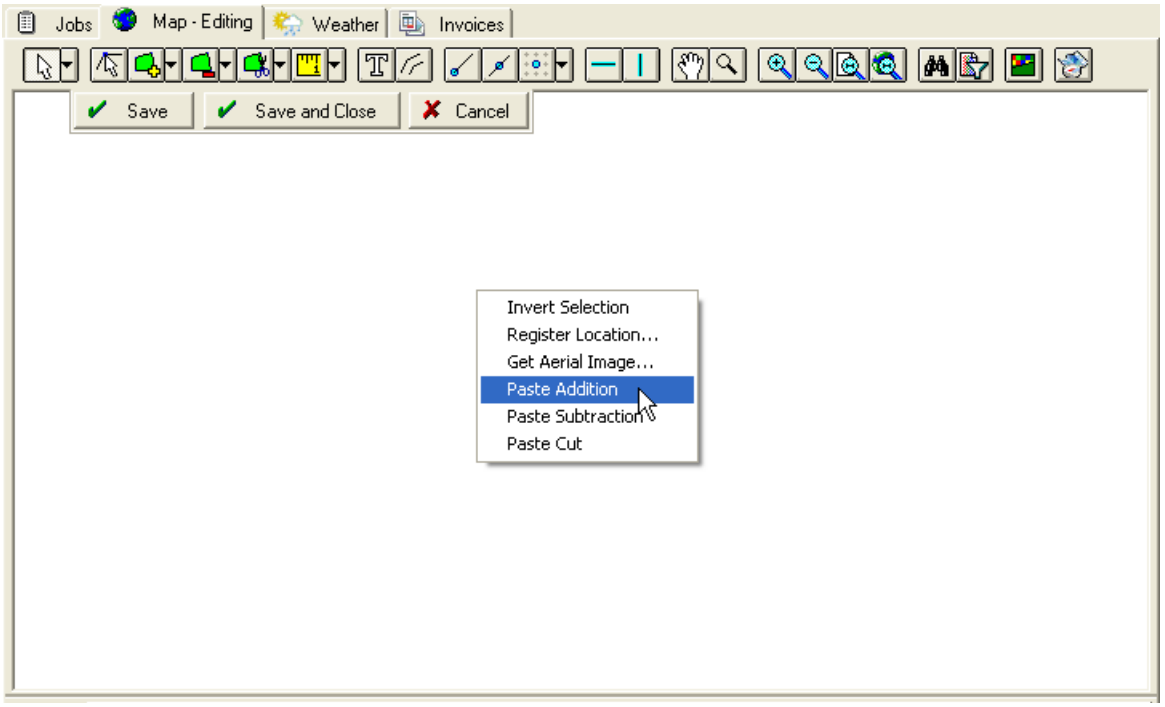
2. Typically you will want to use the field boundary as a starting point. To do this, click the field name. The boundary appears in the *Map* tab.

3. Right-click the field boundary and then select *Copy*.

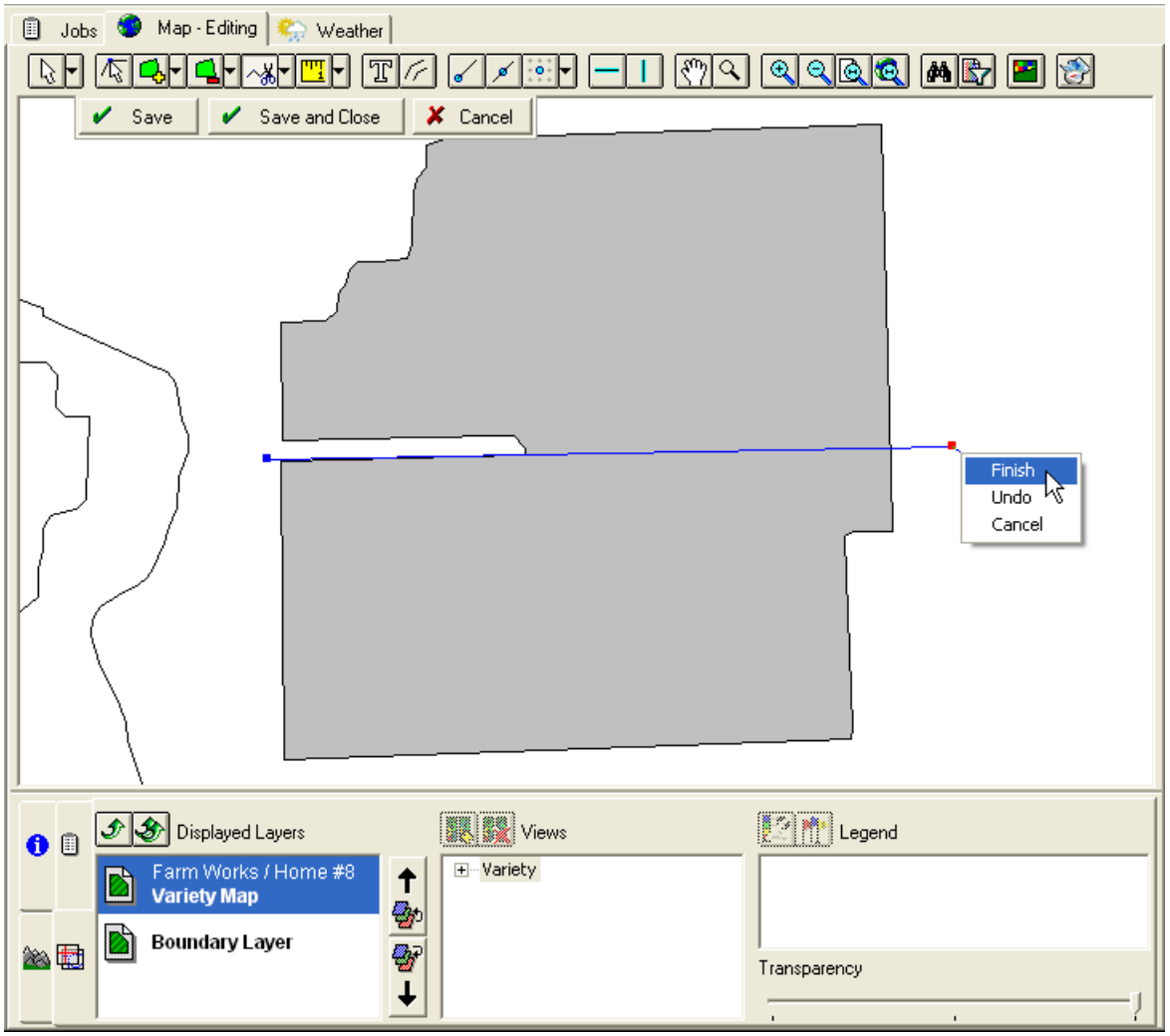


4. The variety layer is listed beneath the enterprise. Double-click the *Variety Map* polygon layer—as this is not an imported variety planting map the layer in the *Map* tab is blank.
5. With the *Variety Layer* as the top layer, click the Edit Layer icon .

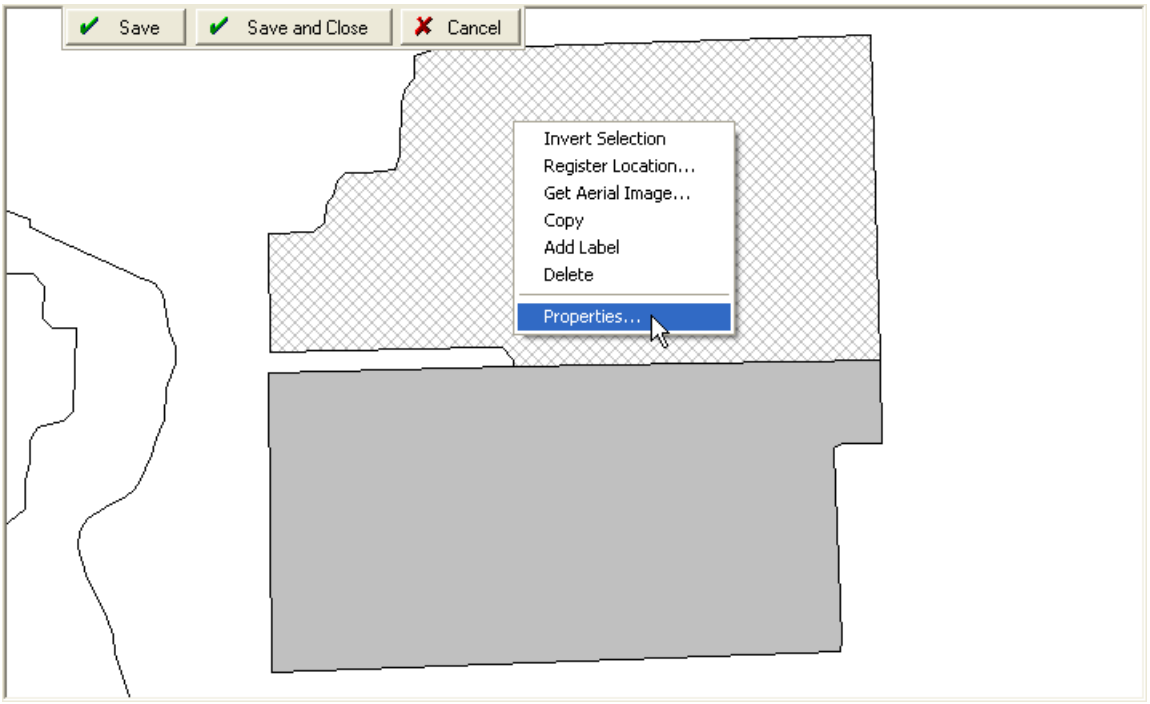
6. Right-click anywhere on the map and then select *Paste Addition* to paste the field boundary into the Variety Map.



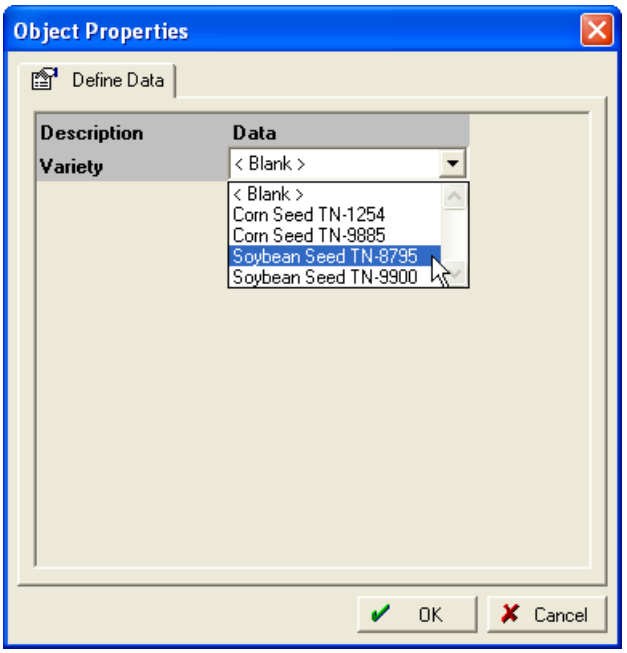
7. Click the Split Tool icon and then select *Split Line* from the drop-down list to section the varieties. Click outside the boundary where the split is to begin, click outside the boundary where the split is to end and then right-click and select *Finish.*



8. Select the Selection tool and then right-click one of the split sections and select *Properties*.



9. In the *Object Properties* screen, select the correct variety for that selection from the *Variety* field *Data* drop-down list and then click **OK**.



10. Repeat Step 8 through Step 9 to assign the correct variety to other sections.

11. Click **Save and Close** to save the changes. The Variety Map now shows the separate varieties with the corresponding legend.

Writing Variety maps to a supported device

To write the variety maps to a supported device (such as the FmX integrated display or the CNH Pro 700 display), use the program's *Write Job Data* option.

1. From the *Write Job Data* screen, select the correct device and format.
2. If applicable, select **Advanced Setup** .
3. Make sure that *Export Varieties* is marked as *True* or *Yes*.
4. Click **OK**.

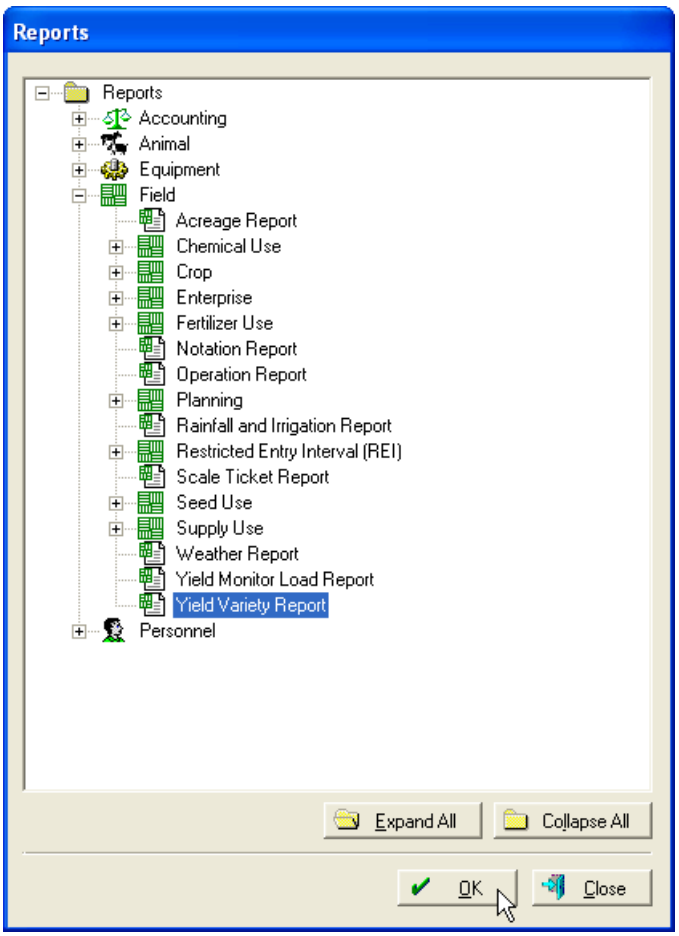
Yield Variety report

The Yield Variety report uses the polygon variety map and any imported yield data map to create an average yield by variety for a particular commodity. It will then compare the results to give you the average yield for each planted variety.

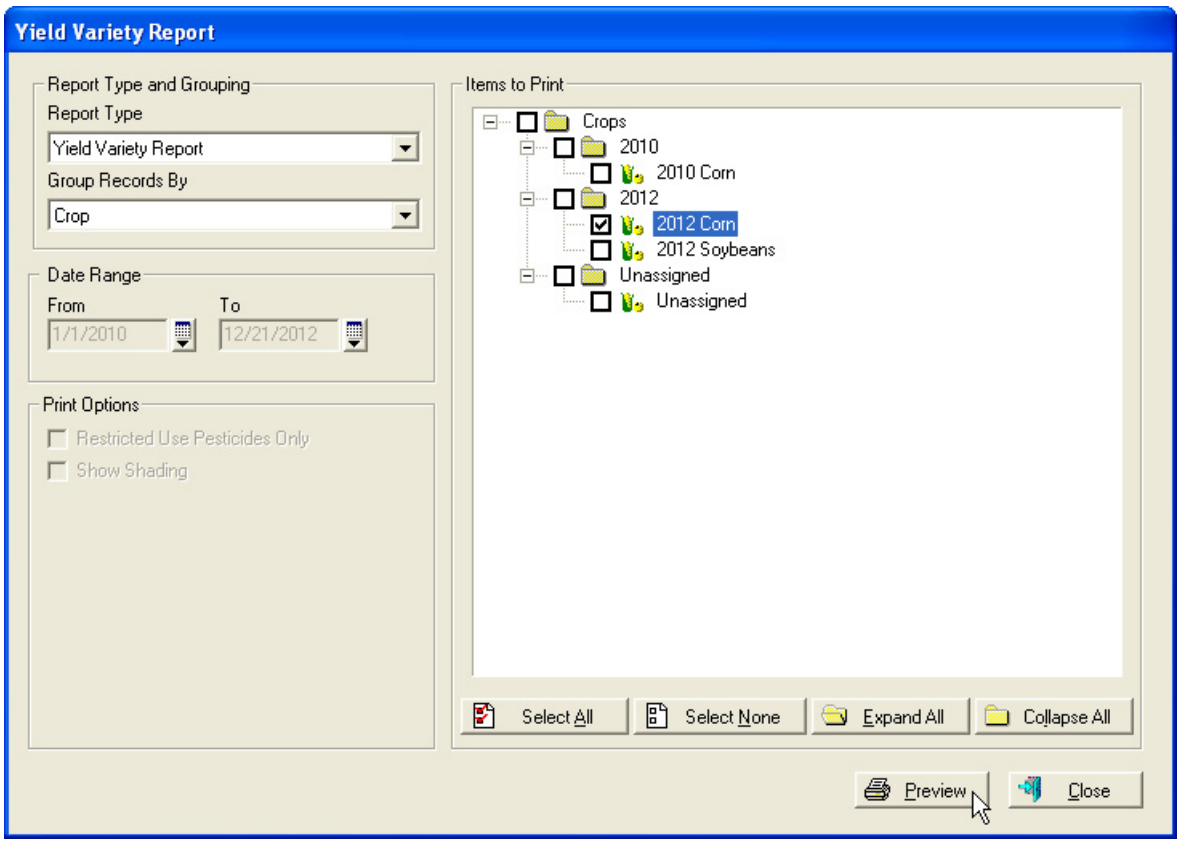
To take advantage of this feature, you must have a Variety Map (see Creating polygon variety maps, page 205) and a yield map that are both located under the correct/same enterprise.

To display a Yield Variety report:

1. Do one of the following:
   - Select *Reports / All Reports*.
   - Click the Report icon .
2. Click **+** beside the field category or click *Expand All*.
3. Select the *Yield Variety Report* and then click **OK**.

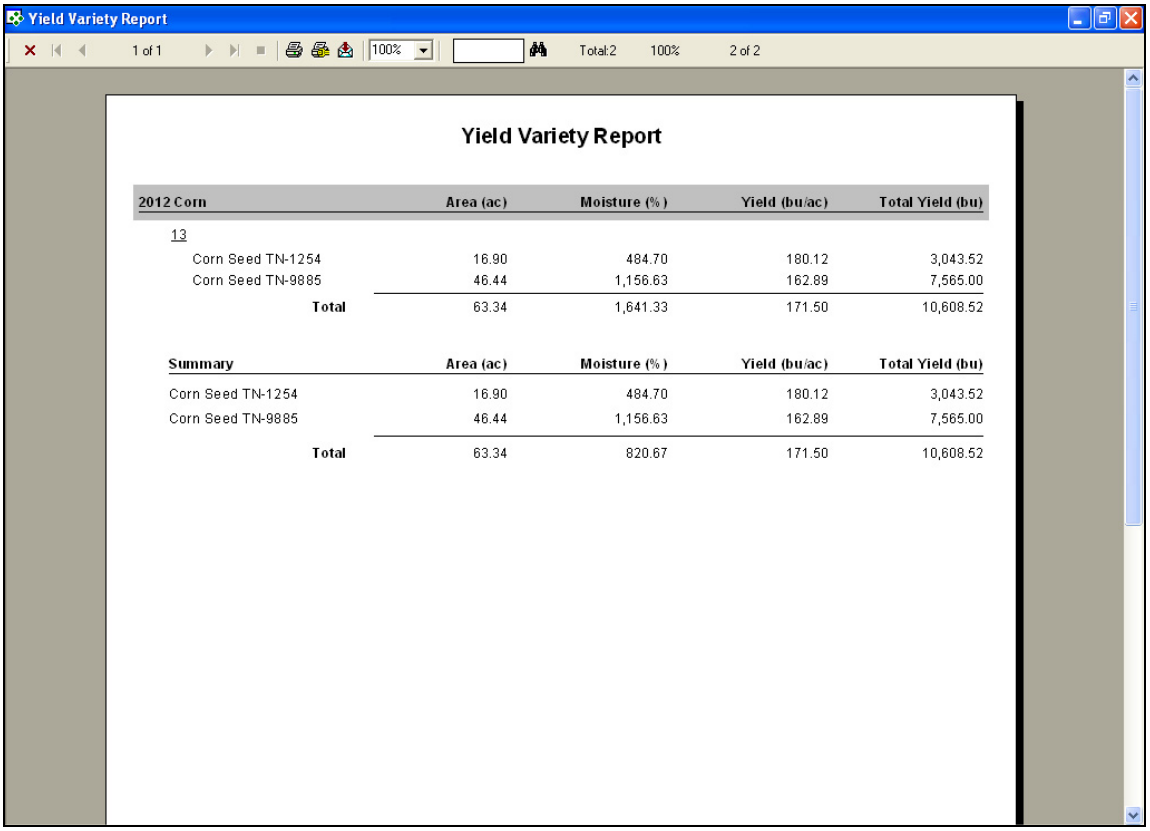


4. Select each item that you want to include in the report or click **Select All** to select all items.



5. Click *Preview*.

The *Print Preview* window shows the first page of the report. To view other pages, click the next page **>** or previous page icon **<**.

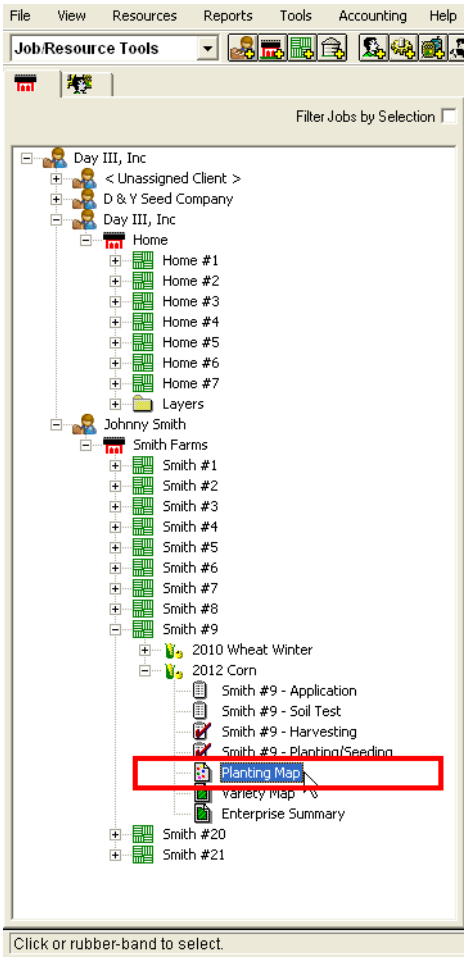


Split Planting maps

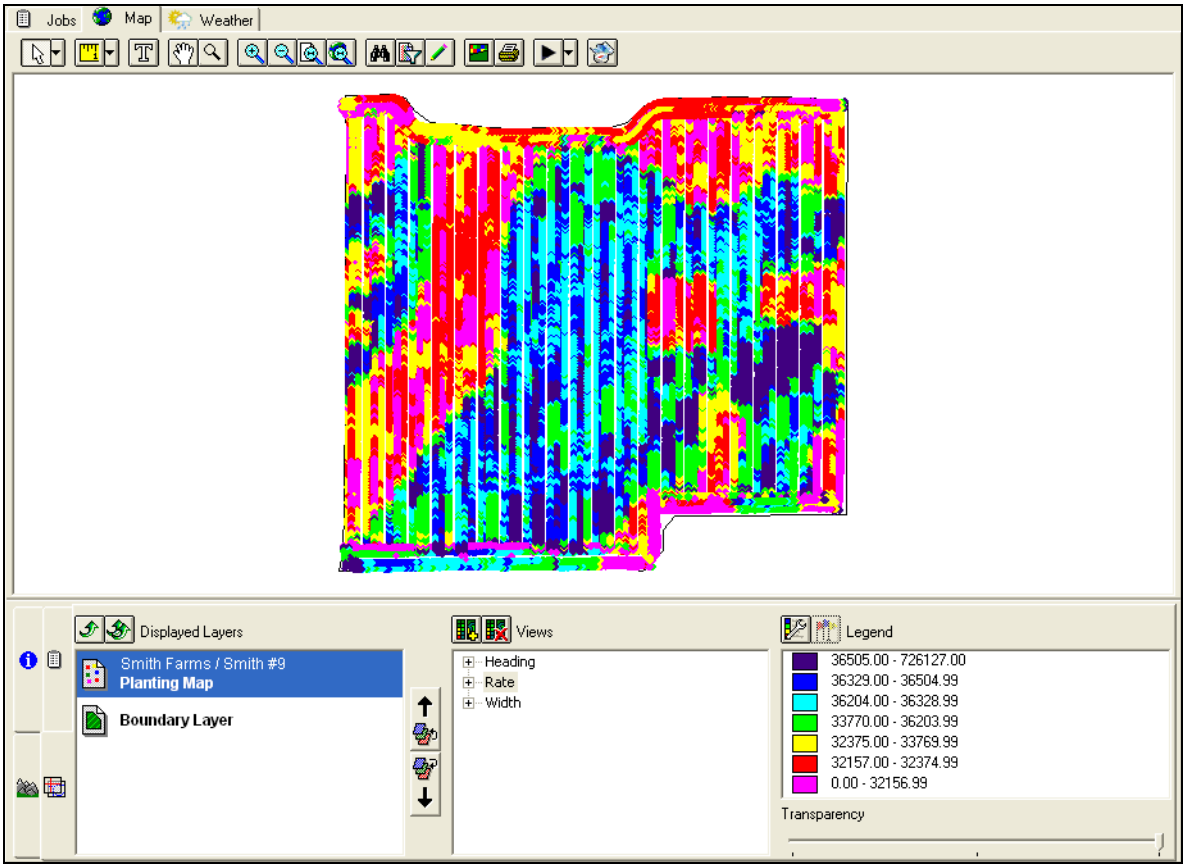
Planting Maps are automatically created when split planting data is imported into the software using the *Read Job Data* option. Planting Maps appear as point data that can show rate unlike the Polygon Variety maps that just shows variety.

To display the Planting map:

1. Click **+** to open the Client, Farm, Field and Crop Enterprise the job was recorded for. Double-click to display the map.



2. The Planting map appears on the *Map* tab.

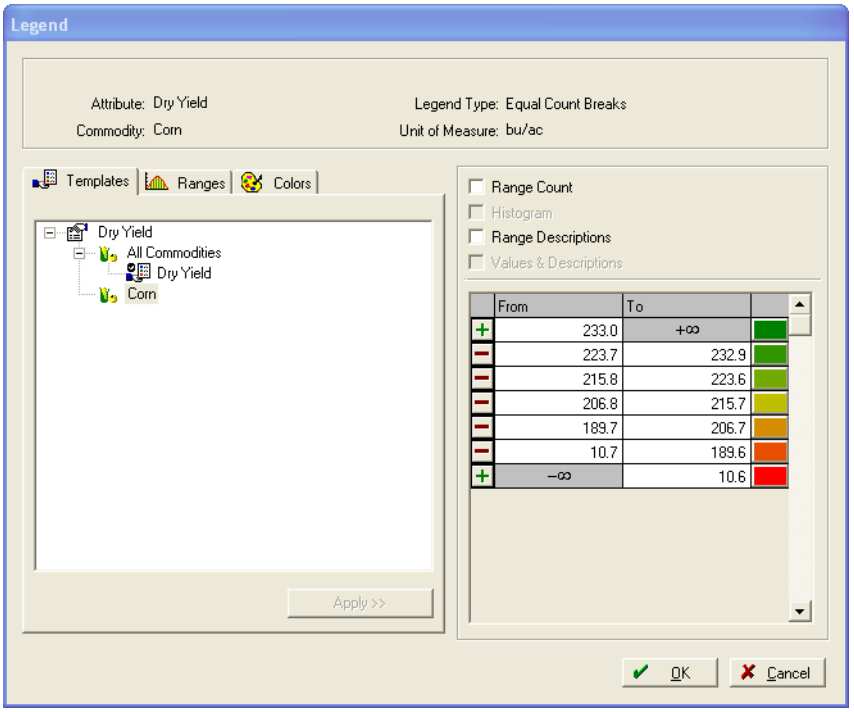


The application rate appears in the legend at the bottom right.

Editing legends

After you import yield or as-applied data, the software automatically creates a legend. You can change the color schemes to suit your needs, and add information to the legend, such as a description for each color range.

1. Double-click the job in the *Farm* tab.
2. Select the *Layers* tab.
3. In *Views*, select the data for which you want to edit the legend.
4. Click the Legend icon .



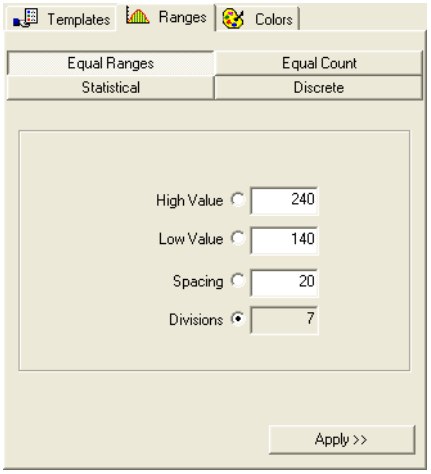
To change a legend to give a map a different appearance, do one of the following:

- Use ranges that are created by the software. See Using ranges created by the software, page 218.
- Create your own ranges. See Creating your own ranges, page 220.
- Change the colors. See Changing the colors, page 221.
- Create a template. See Creating a template, page 224.

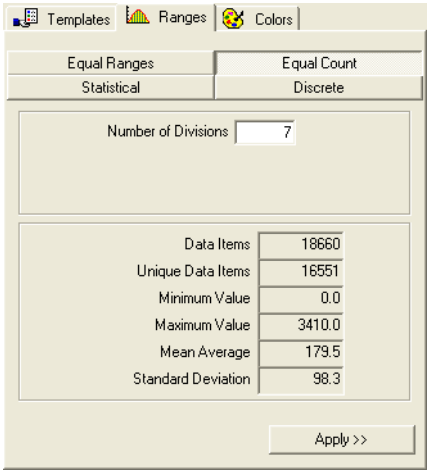
Using ranges created by the software

1. Select the *Ranges* Ranges tab. There are four different options that the software uses to calculate ranges.

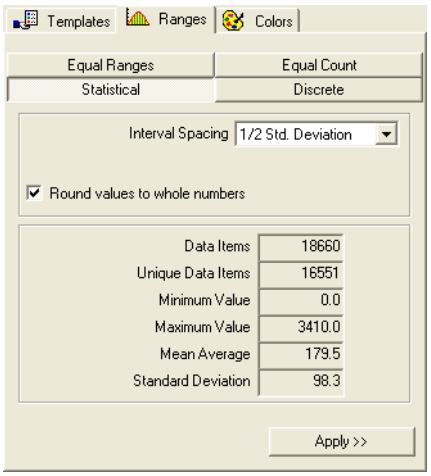
- *Equal Ranges* makes each range the same size. For example, each range could represent 10 units (10-20, 20-30, 30-40, and so on). You must enter three of the four following items: High Value, Low Value, Spacing, or Divisions. The software calculates the fourth value.



- *Equal Count* places the same number of points/areas in each range. Enter the number of divisions you want the legend to have. The software calculates where the division breaks are.



- *Statistical* calculates ranges based on the calculated standard deviation of the points in the layer. One standard deviation includes 68% of all points (centered on the average). Choose the interval spacing in standard deviations (1, ½, or ¼). You can also choose to round the range values to whole numbers to give the legend a cleaner look.

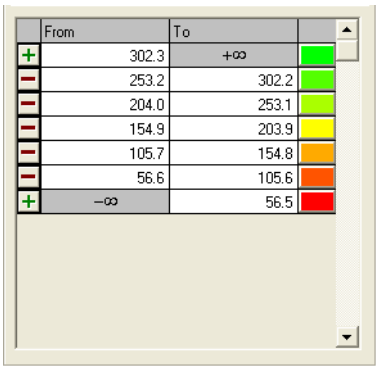


- Discrete ranges are generally not a good choice for job data. This option creates a separate range for each discrete value in the layer. This is used more for attributes that do not have many distinct values, such as soil test data.

Equal count, Statistical, and Discrete ranges give you statistical information about the data in the layer. The number of items (points), the number of unique values, minimum and maximum values, the average (mean), and the standard deviation are all calculated for you. These can help when deciding which type of range to use to view your data.

Creating your own ranges

1. Enter minimum and maximum values for each range. When you enter a minimum value for a range, the software enters the maximum value for the range directly below it and vice versa.
   - To add a range, click **+** at the top or bottom of the ranges.
   - To delete a range, click **-** to the left of it.



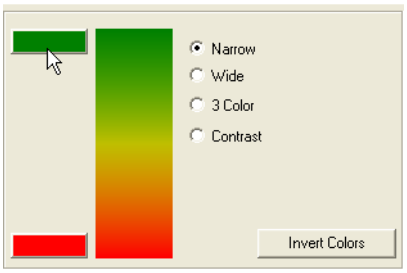
2. Once you select the type of range to use, click **Apply**.

Changing the colors

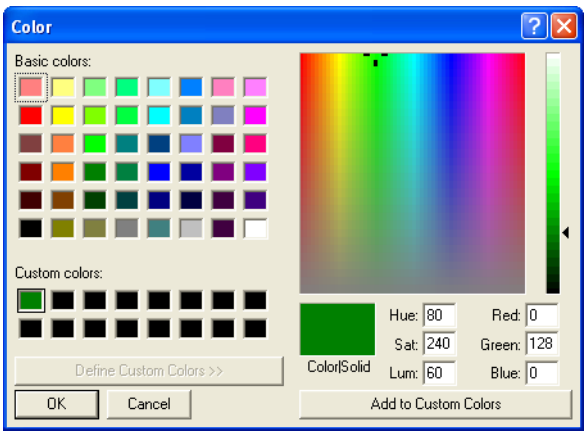
1. Select the *Colors* tab.

   You can use color ranges created by the software or select your own, and you can save a color scheme to use on multiple layers. There are four color range options:

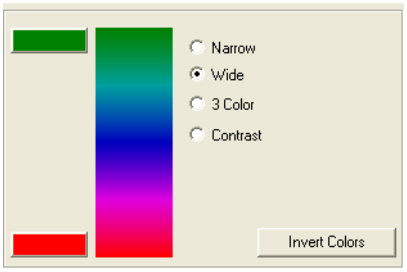
   - Narrow spectrum allows you to choose the top and bottom colors; the software creates a spectrum in between based on three basic colors. To select the colors, click the color button at the top or bottom of the spectrum.



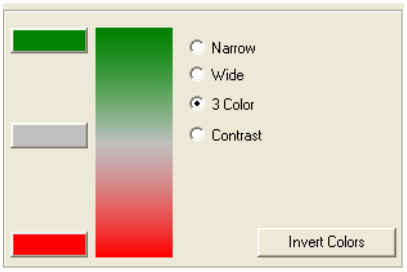
   In the color palette, select basic or custom colors for the spectrum.



   - Wide spectrum also allows you to choose the top and bottom colors, but bases the spectrum on five basic colors.



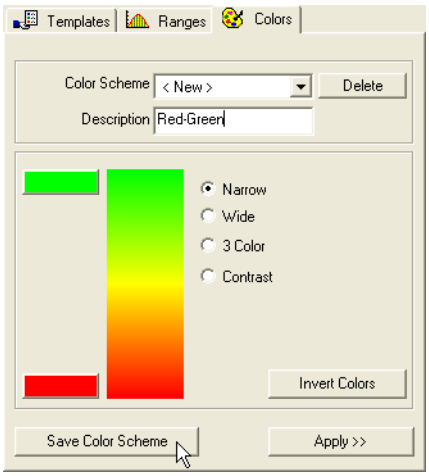
- 3 Color spectrum is similar to Narrow spectrum, but it allows you to choose the center color.



- Contrast gives each consecutive range a contrasting color, instead of creating a spectrum of colors. This allows you to distinctly tell the difference between each range. This is not recommended for yield maps as you cannot easily differentiate between high and low values.

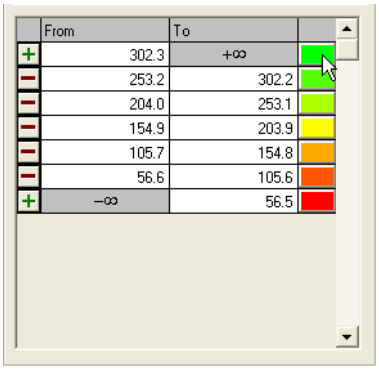
The **Invert Colors** button re-orders the colors from top to bottom.

2. To save a color scheme for later use, enter a description for the scheme and then click **Save Color Scheme**. The scheme name now appears in the drop-down list.



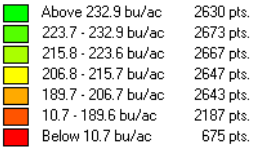
3. To delete a saved color scheme, select it in the drop-down list and then click **Delete**.
4. Once you choose the colors for the legend, click **Apply**. The selected colors or spectrum appear beside each range in the legend.

5. To choose individual colors from the color palette for each range, select the color button beside the range you want to change.

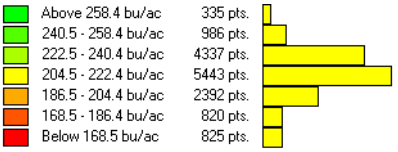


There are four options that can be used on the legend for a layer.

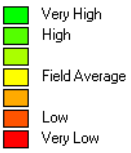
- *Range Count* shows how many individual values (points or areas) are in each range. If Equal Count was used, each range should contain approximately the same number of points or areas.



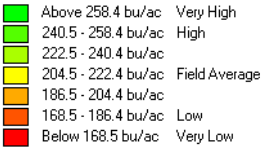
- *Histogram* shows a chart comparing the number of values in each range. If a Statistical Range is chosen, the histogram should appear as a bell curve.



- *Range Descriptions* allows you to enter a description beside each range. Use this to add information to a map where numbers alone are not enough.



- *Values & Descriptions* shows the values for each range and the description.


Above 258.4 bu/ac Very High
240.5 - 258.4 bu/ac High
222.5 - 240.4 bu/ac
204.5 - 222.4 bu/ac Field Average
186.5 - 204.4 bu/ac
168.5 - 186.4 bu/ac Low
Below 168.5 bu/ac Very Low

Creating a template

This may be useful when comparing maps. For example, use the same legend for all corn yield maps and a different one for all soybean yield maps: If the same legend is not used for each map, the map color may be confusing. You can add a template to be used for a specific commodity or for all commodities.

1. In the *Templates* tab, right-click a Commodity and then select *Add*.
2. Enter a template name.
3. To use a template that was previously created, select the template and then click **Apply**.

   Alternatively, right-click the template name and then select *Apply*.
4. To make a created legend the default for a certain attribute in a layer, right-click the template and then select *Default*.
5. To change a saved template, make any range and color changes, right-click the template name and then select *Update*.
6. To delete a saved template, right-click the template name and then select *Delete.*

   The top area of the *Legend* dialog shows information about the current legend.

7. When finished modifying the legend, click **OK.**

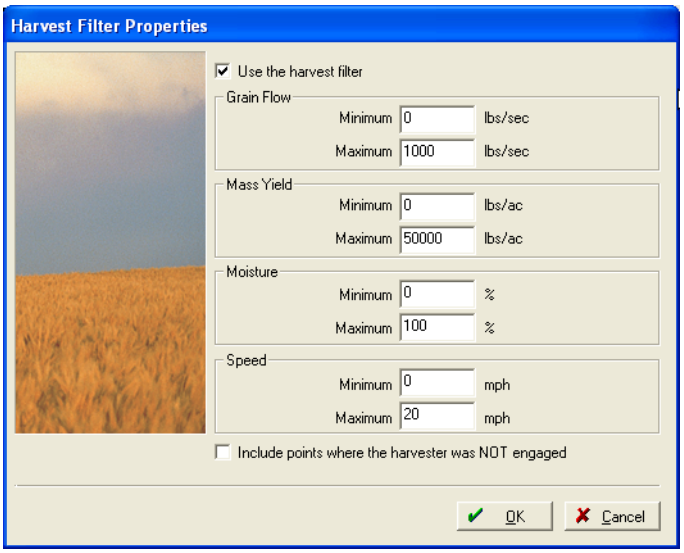
   The created legend is applied to the attribute on the selected layer.

The Harvest filter

When you import yield or as-applied data, some of it, such as bad GPS data, or incorrect flow readings, may be considered invalid. In such cases, use the Harvest filter.

To enable and/or modify the filter:

1. On the *Map* tab, click the Harvest filter icon .



2. Select *Use the harvest filter.*
3. Enter minimum and maximum values for any items to filter out incorrect data.

Note – *You can use as many filters as needed, but do not be too strict or you may exclude good data.*

4. Click **OK**.

   Any data that falls outside the filter conditions is removed.

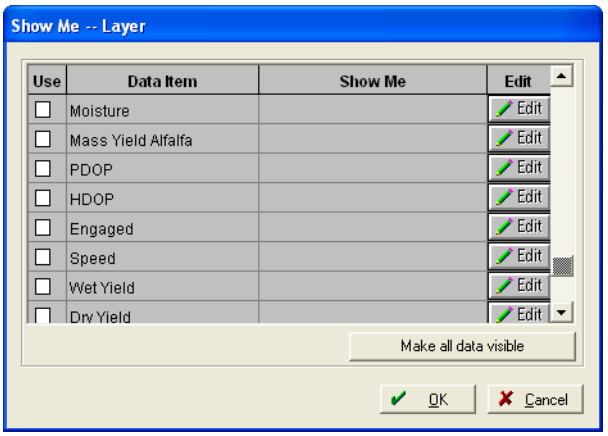
   This data is only temporarily filtered; original data remains intact.

5. To remove or modify the filter, click the Harvest filter icon.

The Show Me feature

When you view yield or as-applied data, you may want to see a certain mapped attribute or property, or see only data that meets certain conditions. This may be useful when analyzing yield data, for example. In such cases, use the Show Me feature.

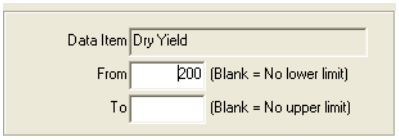
1. On the *Map* tab, click the Show Me icon .

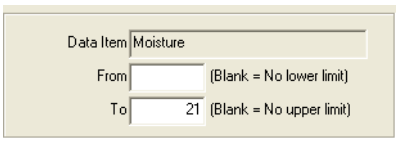


2. In the *Use* column, select one or more Data Item(s) to filter. Items not selected will be hidden.
   - If a selected item has choice data or distinct values, for example, markers, or engaged, associated with it, that information appears.
   - If the selected item has numbers associated with it, enter a range to view.

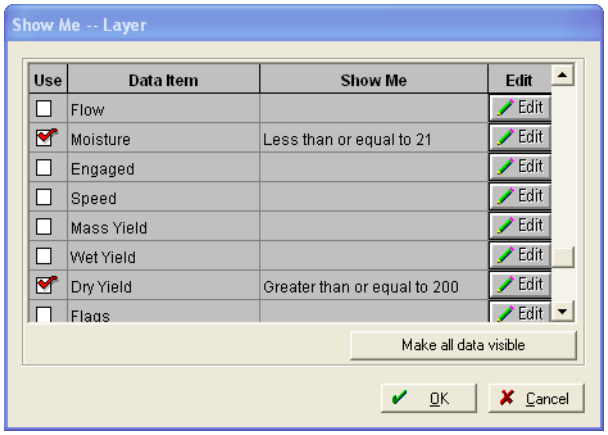
Note – *You can use as many filters as needed, but do not be too strict or you may exclude too much data.*

For example, to see all points that yield above 200 bu/ac but below 21% moisture, enter **200** into *From* and then enter **21** in *To*.





The *Show Me* window shows the required details.



3. Click **OK**.

   Any data that falls outside the filter conditions is hidden.

   This data is only temporarily filtered; original data remains intact.

4. To remove the Show Me filter, click the Show Me icon again and then click **Make all data visible**.

5. To change the filter conditions, click **Edit** beside the Data Item.

Markers

Many monitors can place markers (or ***flags***) on a map to show the location of obstacles or other points of interest, such as rocks, tile holes, and wet spots, which you can view on a yield map for future reference or printing.

To view markers on a yield or as-applied map:

1. Click the Markers icon .

2. In the *Markers* dialog, select the marker to display.

3. Select the symbol to represent the marker.

4. Select the color button beside the symbol to choose a different color for the marker.

   You can show as many markers as needed.

5. Click **OK**.

   Markers appear on the map where the selected items are located, and descriptions appear in the *Legend* tab.

Working with grids and contour maps

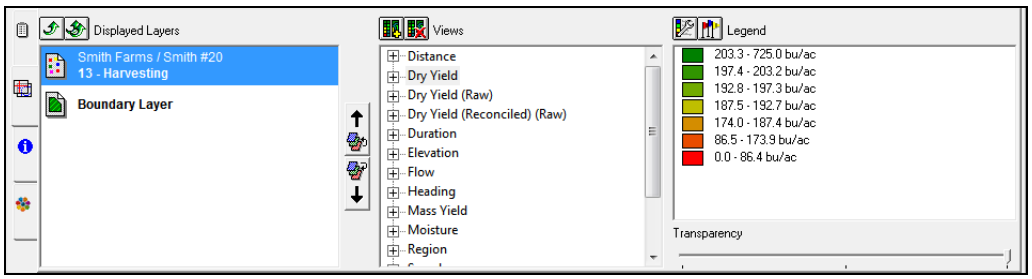
Adding grids or contours to a map

Showing all collected points can make a yield or as-applied map look cluttered, and can make it difficult to see patterns across a field or to analyze data. To avoid this, you can create different views for each layer, such as grids and contours. You can also use grid or contoured maps to make variable rate application maps.

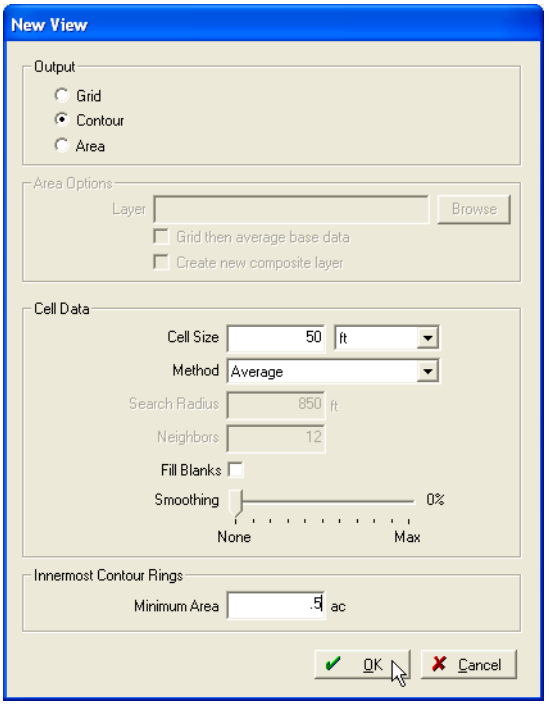
Note – *A field must have a field boundary drawn before you can create a grid or contoured view.*

To create a different view of a yield or as-applied map:

1. In the *Farm* tab, double-click the job to show it on the map.
2. In the *Layers* tab, highlight the layer to create a new view on.
3. Select the data attribute (such as *Dry Yield*) to show in the *Views* tab and then click the Add View icon .



4. In then *New View* dialog, select grid/contour options.

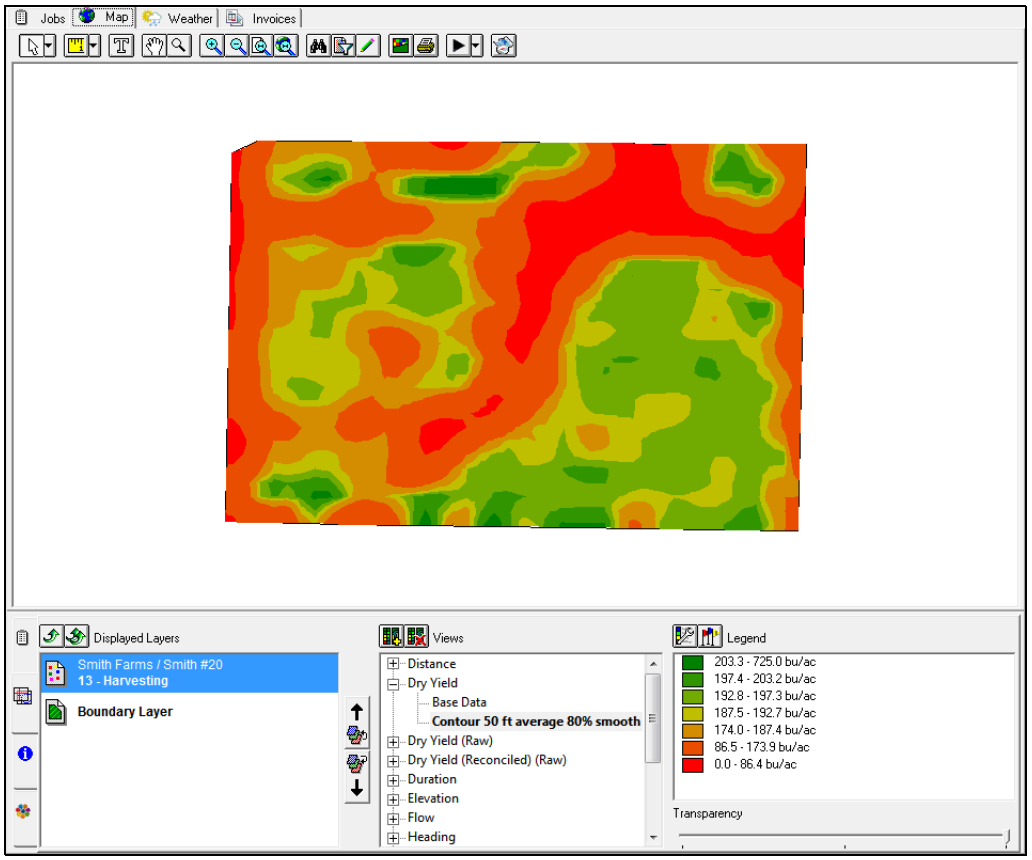


Option	Action
Output	Select *Grid* to see the data gridded. Select *Contour* to see contoured zones of the data. Select *Area* to base the view on another set of area map data such as a soil type map.
Cell Resolution	Enter a cell size. • A smaller cell size gives more resolution, but takes longer to calculate. • A larger cell sizes looks “smoother” but may not accurately represent the actual data.

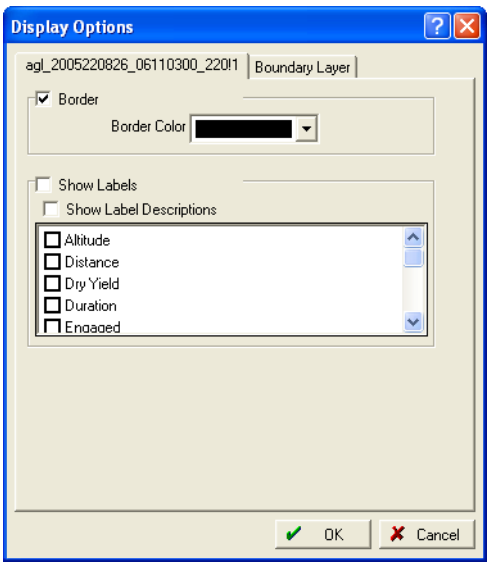
Option		Action
Cell Data	Method	Select Average or Inverse Distance. • Average uses all points within the cell size and weights them all the same. It is typically used with yield data and application maps that have a large number of points. • Inverse Distance places more weight on points close to the center of each grid and less weight on points farther away. Enter the Search Radius and Neighbors. It is typically used for soil test results and maps where you do not have a large number of points.
	Search Radius	Enter the distance from the center point to look for points to use in the calculation.
	Neighbors	Enter the number of neighboring points to use in the calculation.
	Fill Blanks	If there are 'holes' in the data, select this to avoid gaps in the field.
	Smoothing	Move the slider to smooth transitions between ranges. This makes the map appear less 'choppy' and random looking.
Contour	Minimum Area	Enter a minimum area for each zone. Larger minimum areas look smoother, but may not be entirely represent everything inside that zone.

5. When finished, click **OK**.
   - Each view appears with a description under *Views*.
   - To see a view in the *Map* window, highlight it.
   - To see how many acres are in each range for a grid or contour map, click **Range Count** under *Legend*.

For more information, see Editing legends, page 218.



– To put a border around each contour or grid, click the Display Options icon , select *Border* and then select the color of the border from the drop-down list.



6. To view the original map points, click **Base Data**.

   Base Data is listed below the attribute the contour was based on. For example, if you used Dry Yield information to complete the contour, the Base Data and the Contour View are listed in the *Views* column.

7. To delete a view, right-click it in *Views* and then select *Delete View.*

Example

The following describes how the program creates a view using *Inverse Distance*:

1. The program breaks the fields into grids based on the grid size that was entered.
2. To figure the value of the grid, the program draws a circle that has a radius of the size that is entered.
3. The program takes the values of the X points (defined as the # of neighbors to use) that are nearest to the center of the circle.
4. The program figures the value for the grid by weighting the points based on their distance from the circle so that the point that is closest to the center of the circle is weighted more heavily than the point that is further away.
5. The program takes the value that it computes, references the legend, and determines the color.

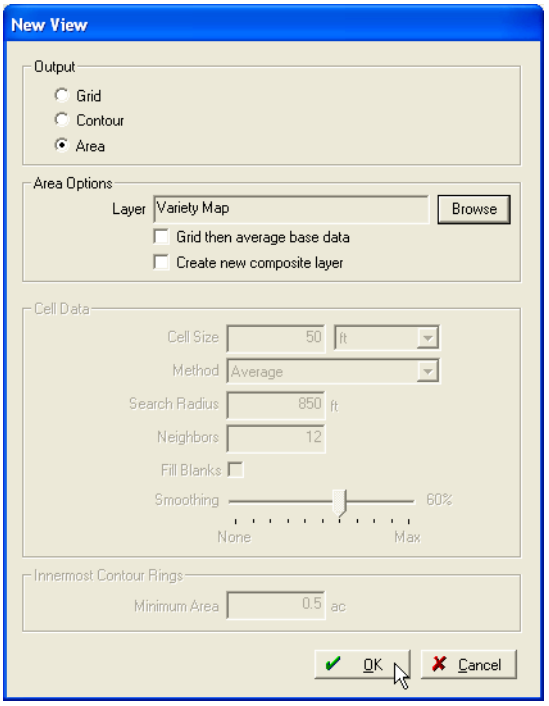
Averaging polygons

The software enables you to average all points that fall in a polygon from a different layer, which can help when comparing yields versus soil types.

You must have a layer with polygons over the same area as your points layer. For example, a soil type map for a field that your yield map is in.

1. Show the points layer to average and then select the attribute under *Views* to analyze.
2. Click **Add View** and then select *Area* in *New View*.
3. Click **Browse** and then find the area layer to use for the analysis.

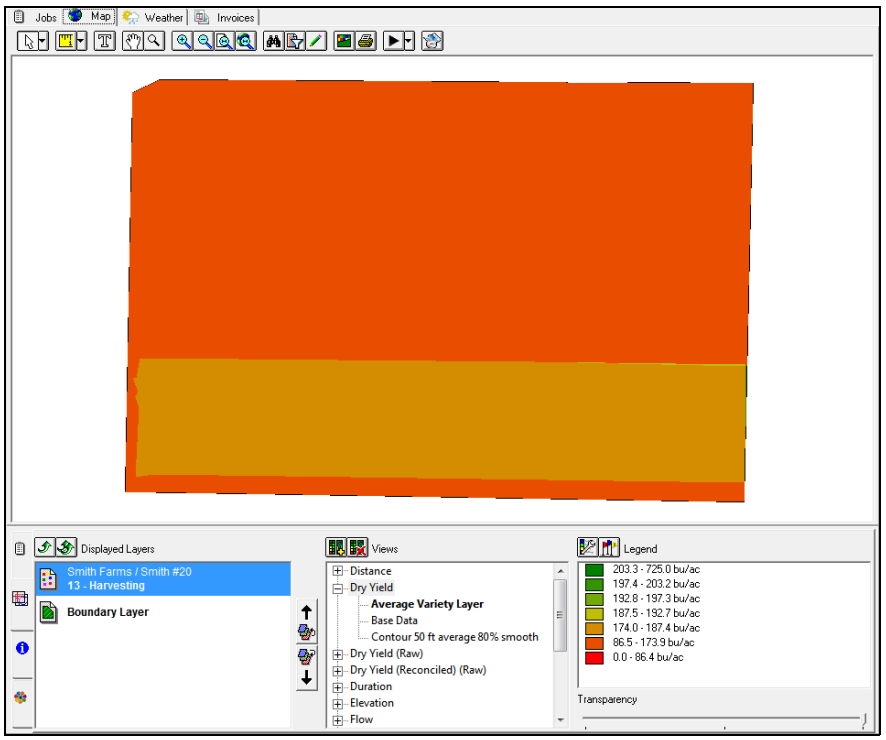
4. Do one of the following:



   - Select *Grid then average base data* to have the program grid the points before it averages them over the polygon. This helps to smooth out the data.
   - Select *Create new composite layer* to create a new polygon layer that includes all the attributes from both layers (point and polygon). The new layer will be an area layer that has the same areas/layers that existed on the selected Area layer. However, the attributes will include the attributes from the point layer (as well as the area attributes).

5. Click **OK**.

The software creates a new view that averages all points within each polygon.



Animating layers

Click the Layer Animation icon to see any map replayed in the order in which it was created. This is useful if you want to replay how a field was worked.

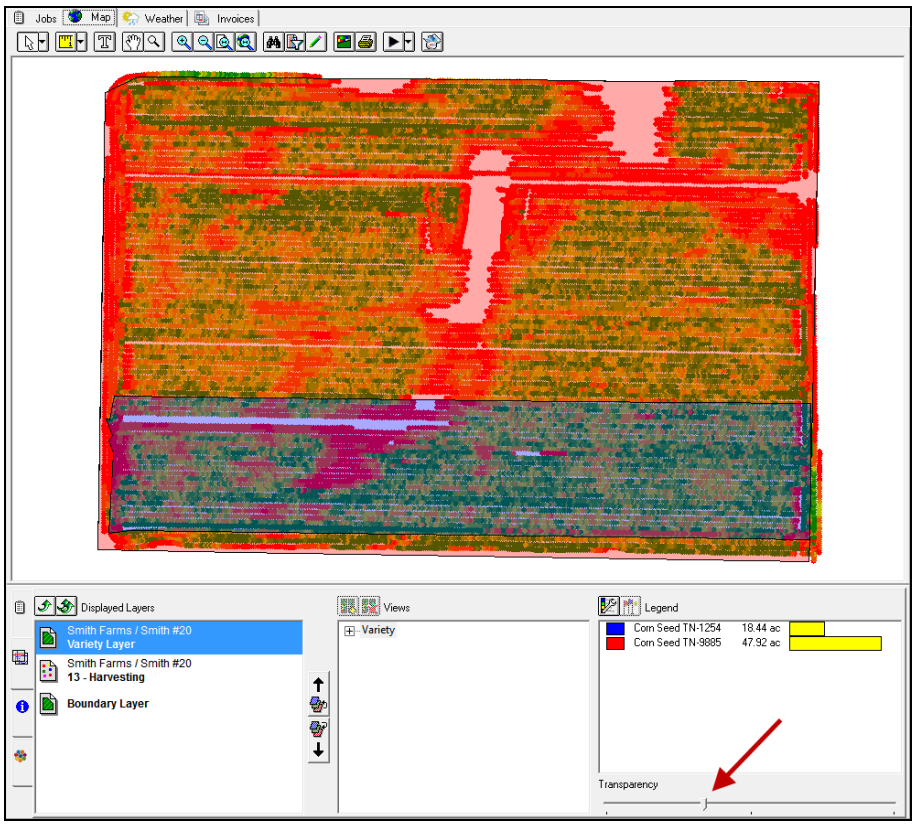
1. Make sure that the visible layer is at the top in *Displayed Layers*.
2. Click the Start Layer Animation icon .
3. Once the playback starts, the Stop Layer Animation icon becomes active. Click it to stop the current playback.
4. As required, click the arrow and then select a playback speed.

The Transparency slider

Use the Transparency slider to reference a map layer directly below the current map:

1. In the *Farm* tab, double-click required layers to move them to the *Displayed Layers* list.
2. Highlight the layer to make transparent and then move the Transparency slider in the lower right corner to “see through” the top layer and onto the second layer.

   You can adjust any visible layer and then change the display order using the display order buttons next to the list.



Soil Type maps

If the Farm Works Mapping software is installed, you can import ArcView shapefiles and generic text files that contain soil type data. If the files have GPS coordinate data, the software can clip the contoured soil type maps to the boundaries of your fields. If you download large soil type maps, the clipping shows only the soil types within your field boundaries. After you import the soil-type maps, the software automatically creates a legend. You can view soil type maps overlaid on yield maps to perform analysis based on soil type.

Note – *You must have a field boundary drawn to clip soil types to a field.*

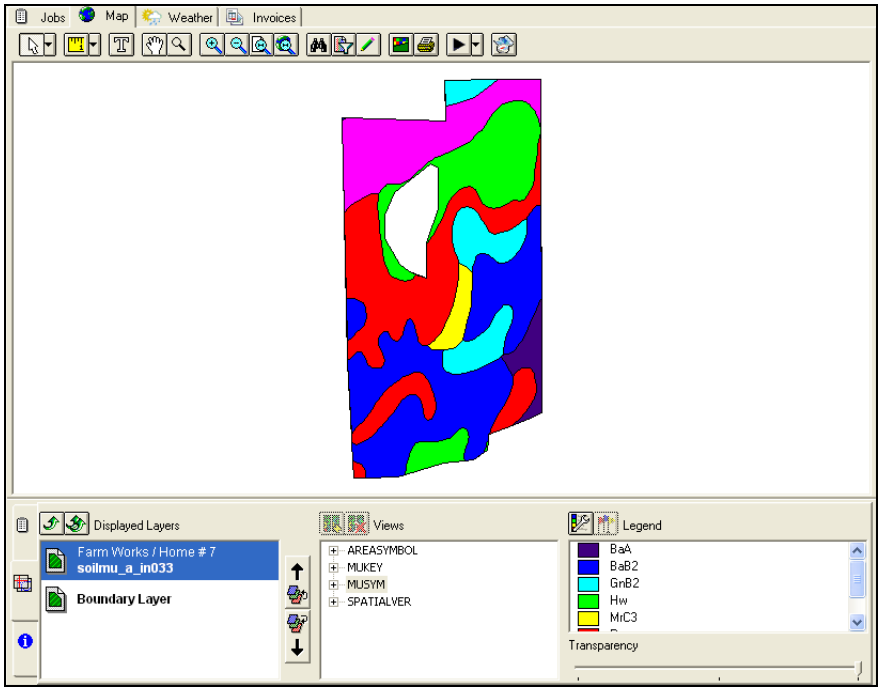
Downloading and importing soil type maps

To download available digitized soil type maps, go to http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo/.

To import a soil type map:

1. In the *Farm* tab, right-click the field for which you want to import the soil type and then select *Import Background*.
2. Locate the soil type map to import and then click **Open**. You must select *Clip background to field boundary* to limit the soil type map by the field boundary. To access this option, you must right-click a Field name (not the Farm or Client).
3. In the *Shapefile Import* dialog, select the Coordinate System, Datum, and Zone. This information is usually in a text file downloaded with the soil type data.
4. Click **OK**. The soil type map is imported and clipped to the boundary of the selected field.
5. Select the property to show in *Views*. A legend is created based on the current attributes.

6. If required, select an area and view the data in it on the *Information* tab.



Soil samples

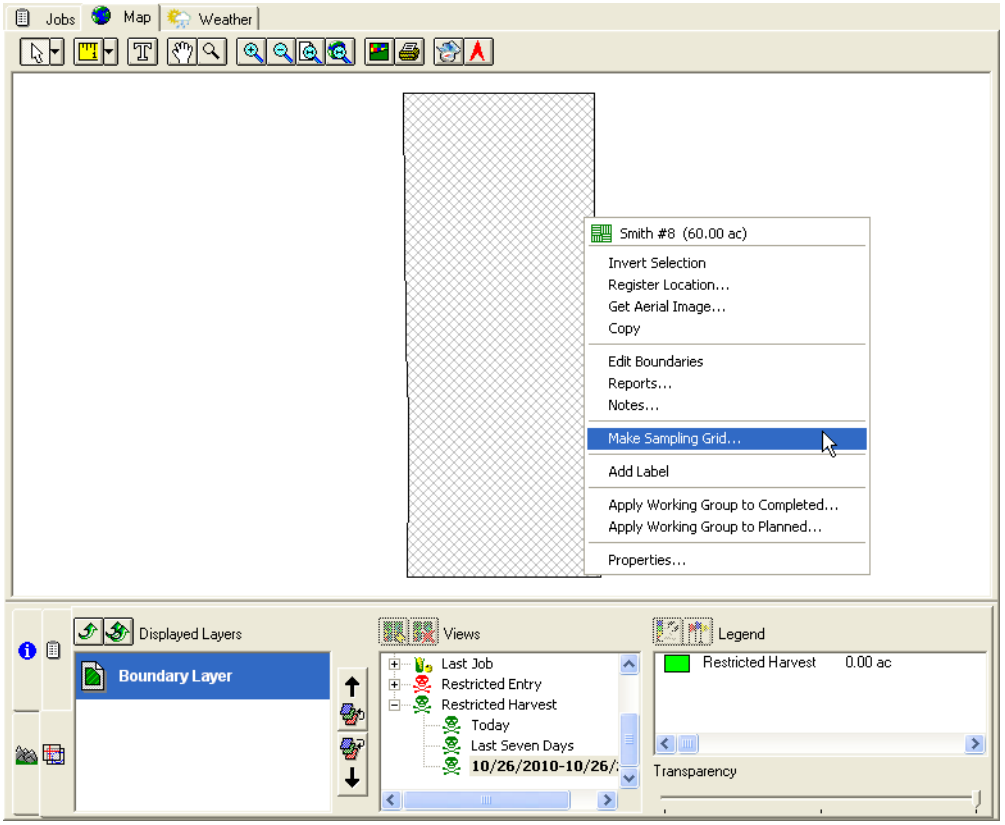
You can easily create soil-sampling grids for use with the mobile mapping software running on a handheld, laptop, or tablet computer. The exported grids provide the target points used for soil sampling while out in the field. Soil Sample grids can now be created as a planned job for syncing over to the mobile mapping software and other consoles.

Later, when you receive a digital file with the soil test results from a lab, the data can easily be imported. The software shows the soil test data and enables you to quickly create grid or contour views of the test results. You can also create VRA prescription maps from imported test results.

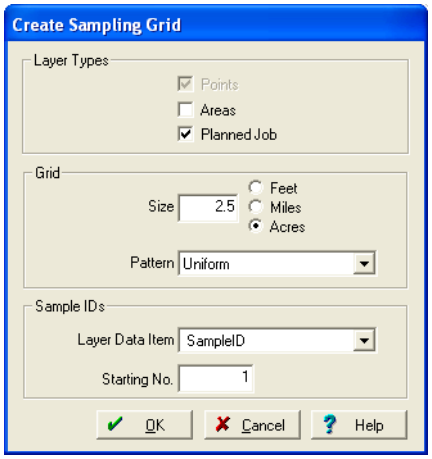
Creating a soil sample grid map

You must use a field that has a boundary map and you must know how large you want the soil sample grids to be. You can create the soil-sample grid map, create the sampling points and then export the map to the mobile mapping software.

1. In the *Farm* tab, highlight the field you want to create a sampling grid for.
2. In the *Map* tab, right-click the field boundary map and then select *Make Sampling Grid*.



3. In the *Create Sampling Grid* dialog, configure the following options:
   - Include sampling Points and/or include Areas.
   - Create a planned job. If you select this, you do not have an option to clear Points.
   - Select the size of the Grid in Feet, Miles, or Acres (Meters, Kilometers, or Hectares).



   - Select how to lay out the Grid Pattern.

     Uniform places the points in the center of each grid.

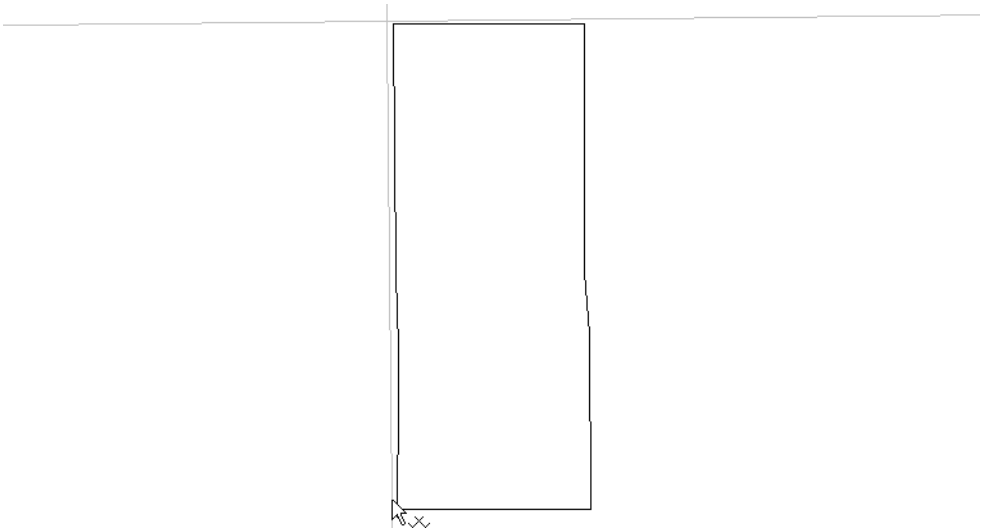
     Stagger Vertically places the points in the center of the grid from side to side, but staggers them up and down.

     Stagger Horizontally does the opposite.

   - Select whether you want to create Sample IDs and specify the number from which to start assigning IDs.

   The cursor changes to a grid.

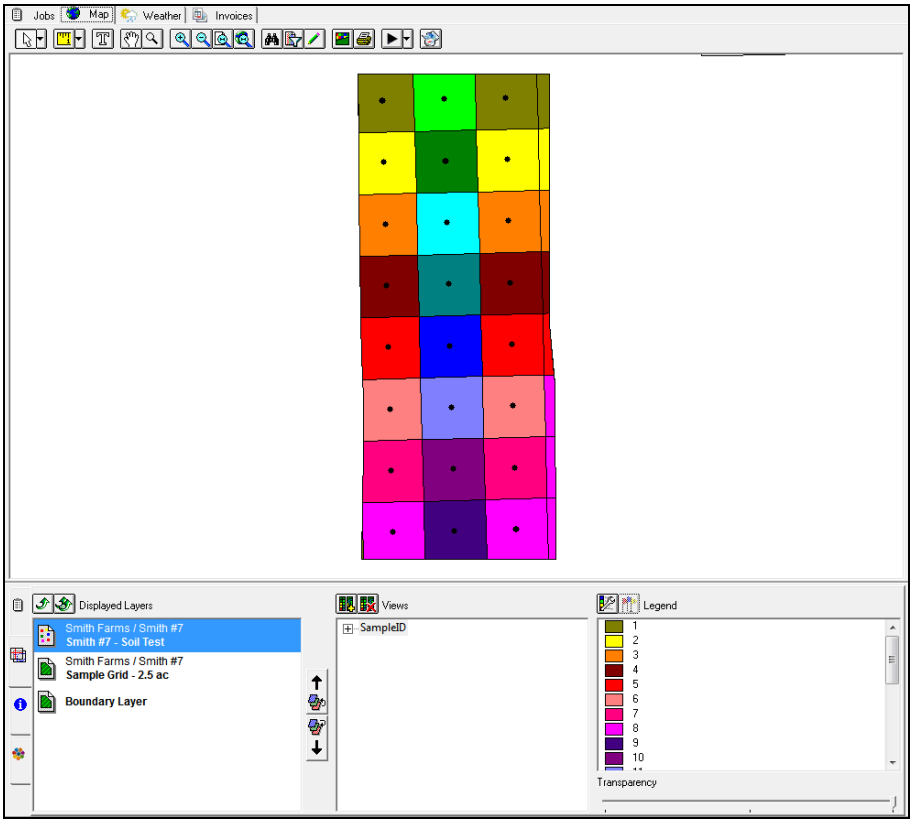
4. Click in one corner of the field, move the cursor in the direction that you want the grids to be aligned and numbered and then click again.



The soil sample grid is created, the layer is added to *Displayed Layers*, and the grids appear in the *Map* tab.

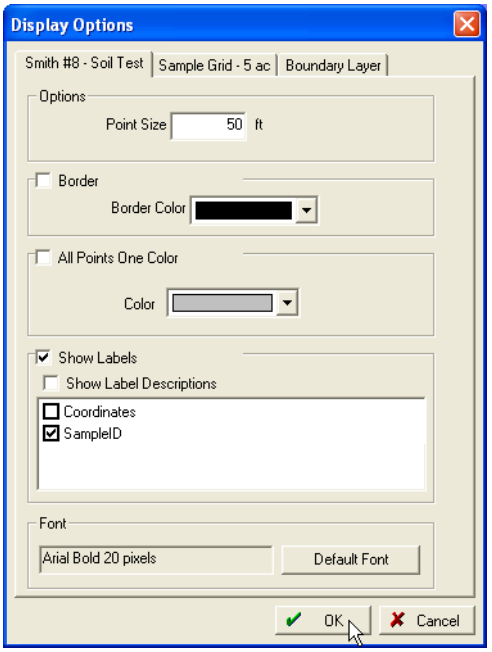
- If you selected points and areas, there is a separate layer for each.
- If you selected job and area, you will have a separate layer for the area.

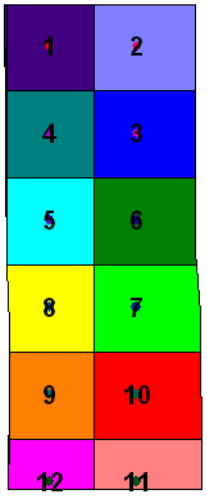
- If you selected planned job, it contain the points; there is no separate layer.



5. To view labels for the Soil Sample Point IDs:
   a. Click the Display Options icon and then make sure that *Show Labels* is selected. To change the font and size, click the Default Font icon.
   b. Click the Edit Layer icon to show the *Map – Editing* toolbar.
   c. Click-and-drag around all points to select them.
   d. Right-click and then select *Add Label.*

e. When finished adding labels, click **Save and Close**, or click **Cancel** to discard the labels.



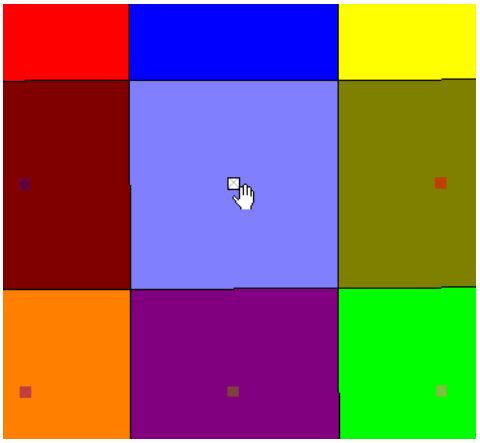


Modifying soil sample grid maps

As required, you can move, add, or delete sample points:

1. Under *Displayed Layers*, double-click the points layer, or use the arrows to move the layer to the top of the list.
2. Click the Edit Layer icon to show the *Map – Editing* toolbar.
3. To move a point, click and hold it until the cursor turns to a hand. Drag-and-drop the point to the new location.
4. To add a sample point to the map, click the Define Points icon and then click the map where you want the new sample location.

5. If you chose to create Sample IDs, you can enter an ID for the new point.



6. To delete a point, select it and then press Delete.

   Alternatively, right-click and then select *Delete*.

7. When you finish modifying sample points, click **Save and Close**, or click **Cancel** to discard changes.

Exporting soil sample grid maps

You can export the soil-sample grid points and area maps for use with mobile mapping software. If you created a planned job:

1. In the *Jobs* tab, scroll to the job or use the sorting and filtering options to find the job(s). See Finding a job in the Jobs tab, page 79. Planned jobs are in orange and show the Planned icon.
2. Select the job(s).
3. Right-click any selected job and then select *Work Order / Mobile*. The Export icon is added to each planned job you select. After you synchronize with the mobile mapping software, the export icon is removed from the jobs.

   You can mark a job for export (as a work order) and synchronize as many times as required.

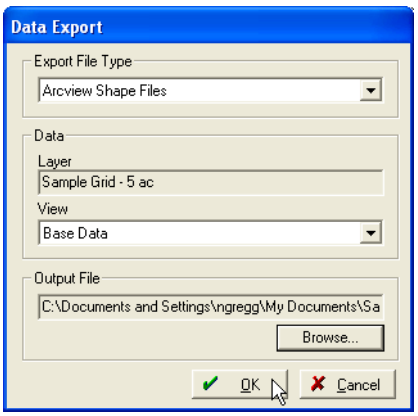
Once these soil-sample grid maps are transferred to the device, you can view them as background layers and then navigate to each point or area on the map to pull a sample.

1. In the *Farm* tab, select the Sample Grid layer(s) to export. Double-click the layer(s) to display the map in the *Map* tab.
2. In the *Farm* tab, right-click the layer and then select *Export*.

3. In the *Layer Export* dialog, select the following:

Field	Action
Export Type	Select: • AgLeader Basic or Advanced (for use with a PF3000 vehicle, for example). • ArcView shapefile (GIS software) • Comma Separated Values (Microsoft Excel® spreadsheet) The export option for exporting the Sample Grid Layer are ArcView shapefile and Google Earth .kml files.
Layer	Enter the required layer. As you right-clicked the layer and selected *Export*, the *Layer* defaults automatically and cannot be changed.
View	If you created multiple views, select which view to export. For this particular export, your only option is *Base data*.

4. Click **Browse** to select the location to export to.



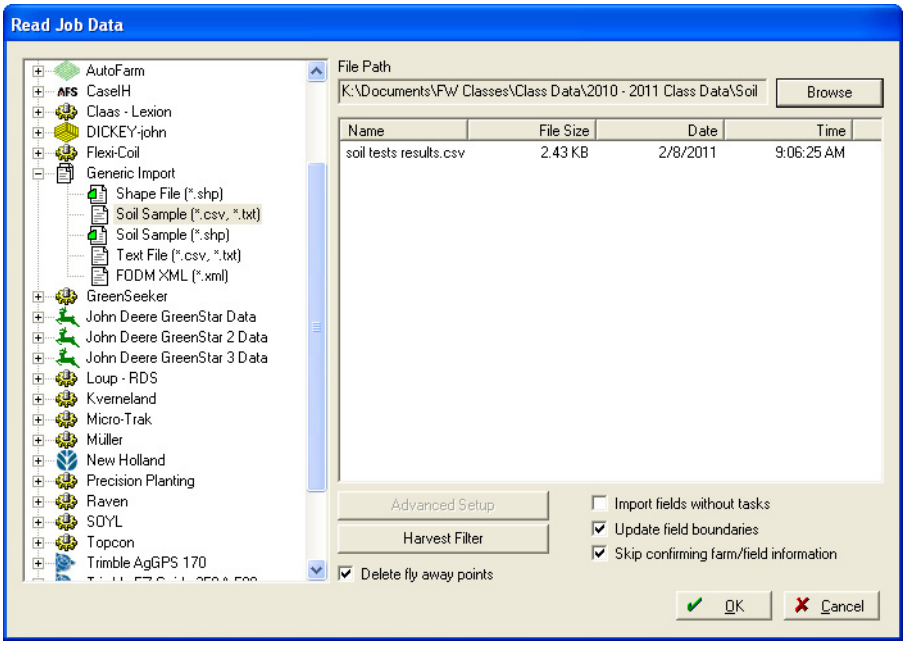
5. Click **OK**.

Importing soil sample data

When you receive the results of soil sample tests from a lab, you can to import this data directly into the Soil Sample layer that was used when sampling. The software can then create grid or contour maps based on nutrient values. You can also use this information to create variable rate prescription maps.

1. Click the Read Job Data icon .
2. Select the appropriate type of file under *Generic Import* (.csv, .txt, or .shp).
3. Click **Browse** to locate the file that contains the soil sample data.

4. Select the file and then click **OK**.



5. Choose whether the file contains latitude and longitude coordinates along with soil sample values or if it needs to be joined with another file to obtain the coordinates.

   You can open the .csv or .txt files in a spreadsheet to see if coordinates are included: With data sent directly from the lab, coordinates are not normally included. If the file must be joined with another, and you created the sampling points, export the points layer as described in Exporting soil sample grid maps, page 244.

   It is often easier to open the file that contains the data in a spreadsheet while going through the import process.

   If you will import more than one file, you can create and save a template to make the import process much faster. If a template already exists, select it from the drop-down list. You can also delete any previously created templates.

6. Select the type of delimiter within the file. If you open the file using aa text-editing software, such as Notepad, whatever character separates the values from each other is the delimiter. CSV files are comma delimited.

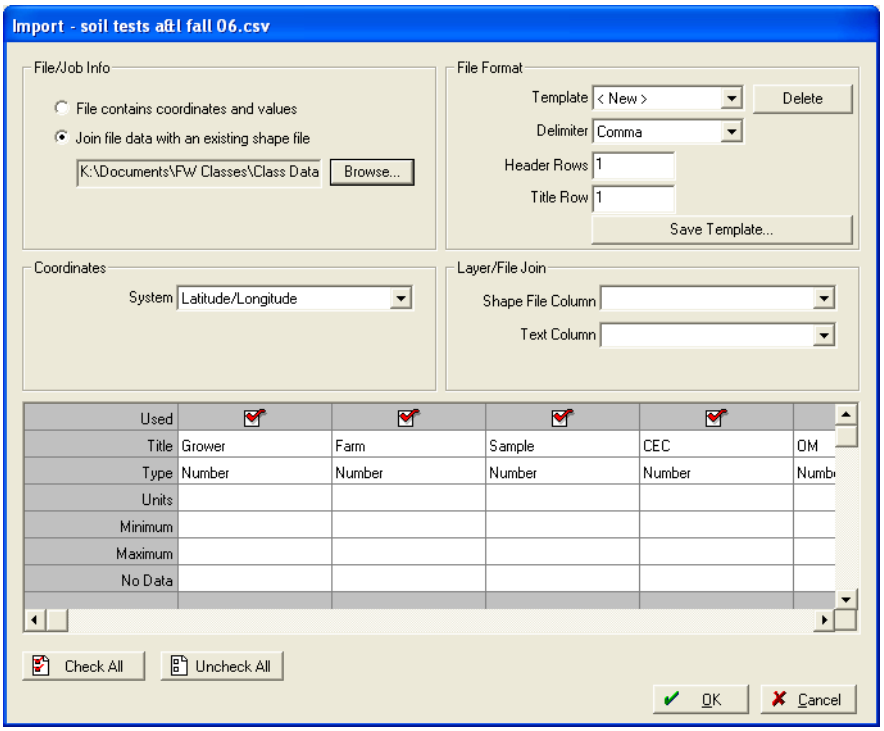
   The *Header* row shows how many rows there are in the file before the data. The software skips these rows when importing the data.

   The *Title* row contains the name of the attribute to be imported. For example, Client, Field, pH, K, or OM.

7. If you join a file with a shapefile, you must select an attribute to match the rows in the data file to the points in the shapefile. SampleID is generally used to do this.

8. Select which columns in the data file to use: Select the check box above each of the attributes to be imported. If you selected the correct *Title* row, that row is populated.

9. Enter the Attribute Type, Units, and so on in each column. To view example data directly from the file, scroll down in this window. Use this to determine the correct number of header rows and the title row. For more information, see Setting up and selecting layer attributes, page 151.



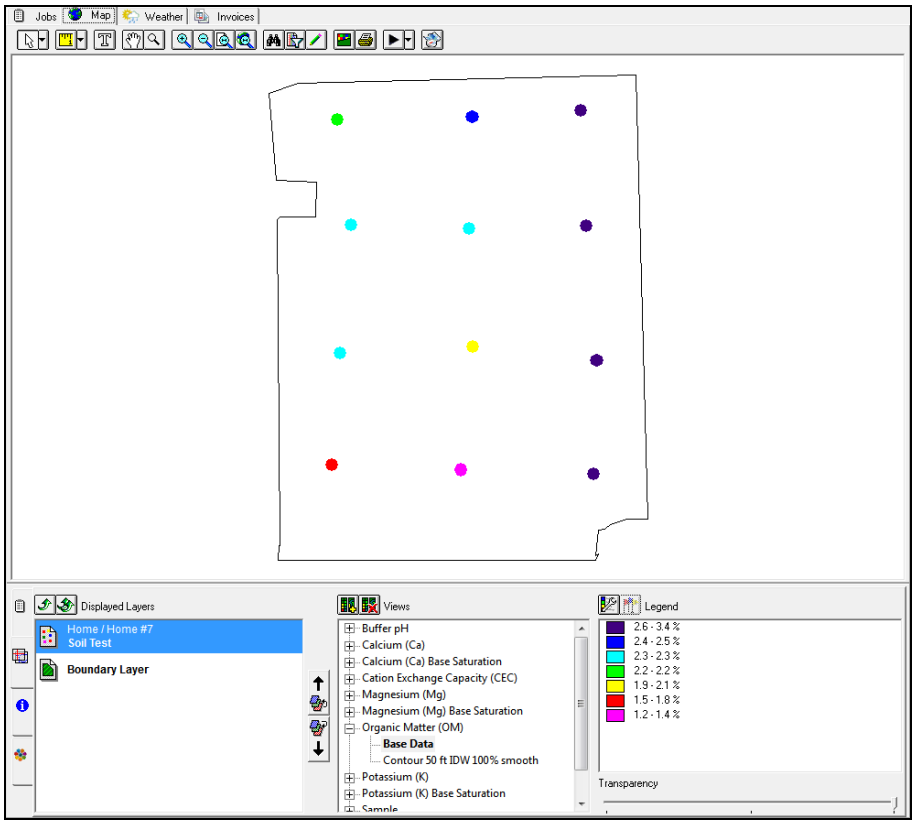
   a. Enter or select values for the following:

   - *Used*: Select each attribute to import.
   - *Type*: Select a type for under each attribute to be imported. To add a new type, select Add/Edit. You must select the correct type. If legends are to be shared from one layer to another, an attribute type must be created for that attribute. Otherwise, you can select Text or Number for the type.
   - *Title*: If you select Text or Number, enter a title.
   - If the attribute is a Number, you can select the units that are associated with the attribute as well as set minimum and maximum values on what is imported. Anything outside these values is not imported.
   - *No Data*: If you enter a value in this row, anything matching this value is not imported.

   b. When finished, click **OK**.

10. To save the template to import a similar file later, click **Save Template** and then give the template a name.
11. Click **OK**.
12. In the *Farming* dialog, enter all of the applicable information.
13. Select the correct Field Name and then click **OK**. The job is placed under the selected field.

14. To view the map, double-click the job name in the *Farm* tab.
15. You can now select any of the attributes to automatically create a legend under *Views*.

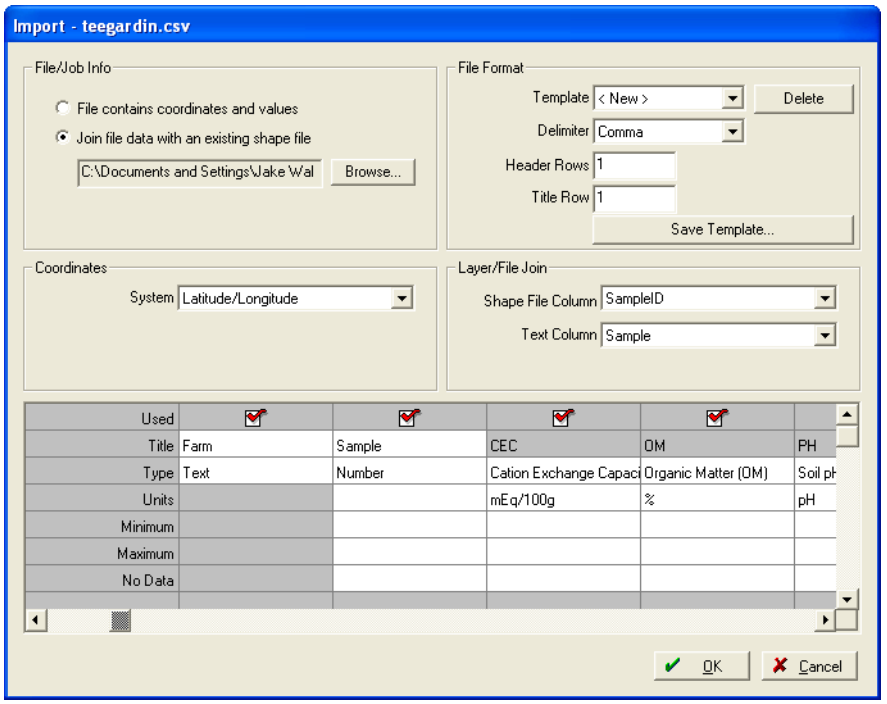


16. You can create grid and contour maps with soil sample points, similar to yield maps. When you draw a grid or a contour map from soil sample data compared to yield data, consider changing the parameters. For example, use fewer neighbors—6 instead of 800—and a larger search radius since there are fewer points.

You can now use these grid and contour maps to create variable rate prescription maps. See the following sections.

Selecting attributes and attribute types

When you import a generic file (.csv, .txt, and so on) or a shapefile, you must choose which attributes to use and then set their properties and limits. The soil sample import above is used as an example here.

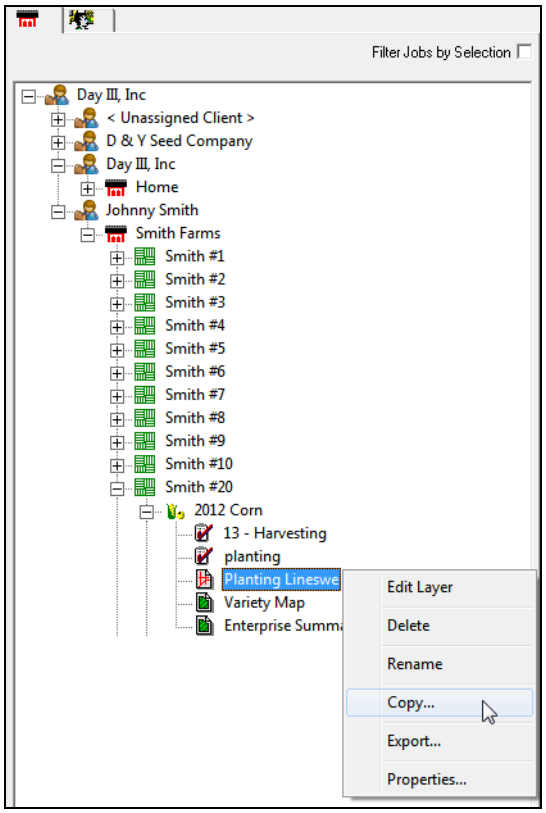


1. Enter or select values for the following:
   - *Used*: Select each attribute to import.
   - *Type*: Select a type for under each attribute to be imported. To add a new type, select Add/Edit. You must select the correct type. If legends are to be shared from one layer to another, an attribute type must be created for that attribute. Otherwise, you can select Text or Number for the type.
   - *Title*: If you select Text or Number, enter a title.
   - If the attribute is a Number, you can select the units that are associated with the attribute as well as set minimum and maximum values on what is imported. Anything outside these values is not imported.
   - *No Data*: If you enter a value in this row, anything matching this value is not imported.
2. When finished, click **OK**.

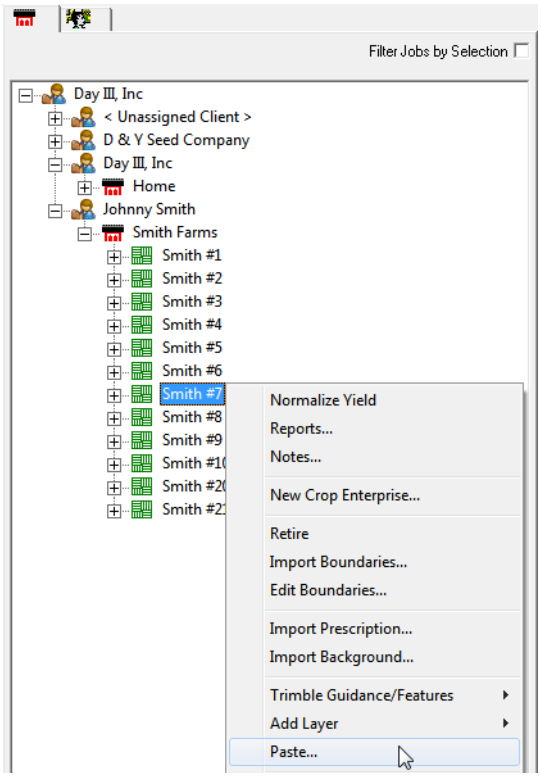
Copying a layer to a different Farm or Field

You may need to copy a layer from one Farm, Field, or Category to another. For example, if the layer was incorrectly placed, or you need a copy for another crop—if you use the same soil sample locations in different years.

1. In the *Farm* tab, right-click the layer to copy and then select *Copy*.



2. Right-click the Farm, Field, or Category to paste the layer into and then select *Paste*.



Once you have selected Paste, you are prompted to select one of the following:

All Data: This copies the attributes and the map.

Map Objects Only: This copies the map only.

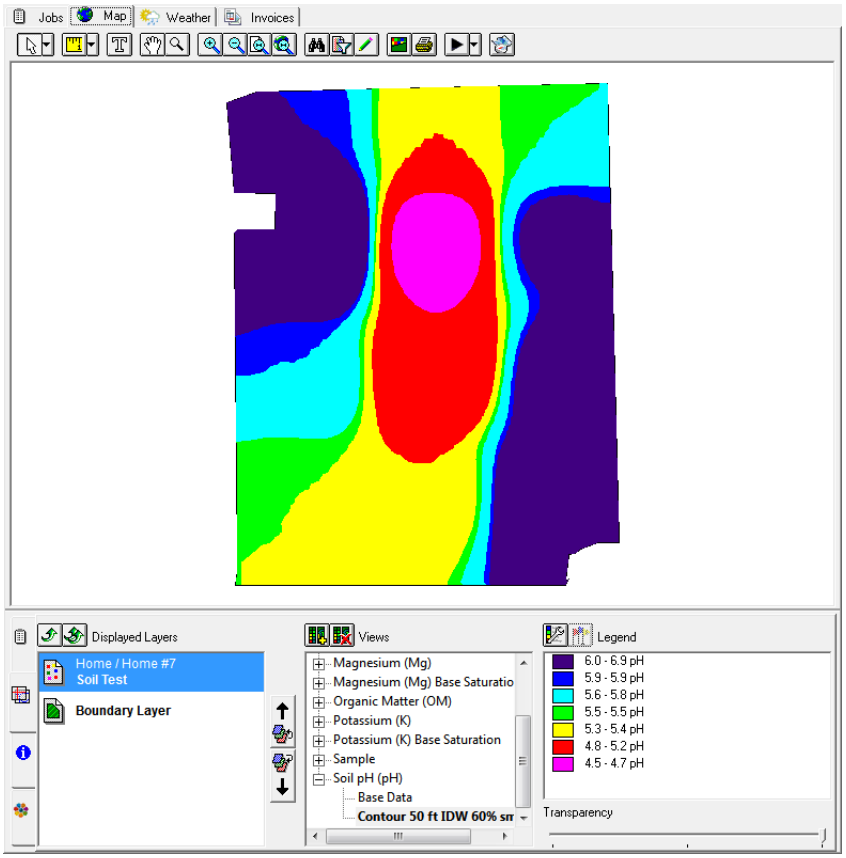
Layer Objects Only: This copies the layer properties only.

The layer should now appear with the correct properties showing below the new location

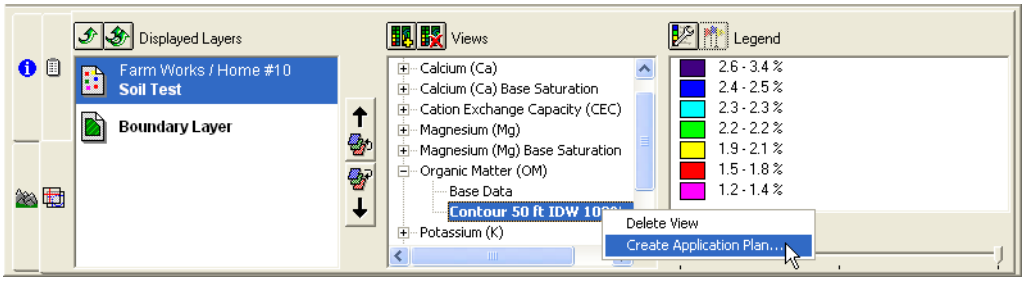
Creating VRA maps

You can use soil type maps or any imported soil sampling maps to create VRA maps. You can export the application maps that you create for use with most commonly used variable rate controllers and hardware systems.

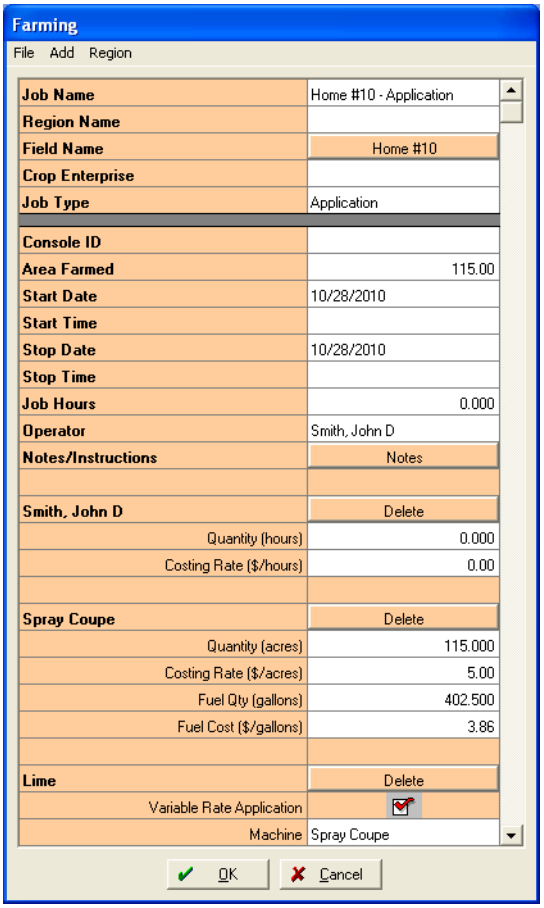
1. Add the people, machines, and supplies that will be used for the job to the *Working Group*. If you prefer, you can choose to add only the supplies used now and add the people and equipment later.
2. In the *Farm* tab, double-click the layer to use to create a VRA map to show it in the *Map* tab. This must be an area layer that has different zones (soil type layer, for example) or a points layer that has grid or contour views created. To create your own layer with custom-drawn zones, Editing Enterprise maps, page 148.
3. Under *Views*, select the attribute and the view to create the VRA map from.



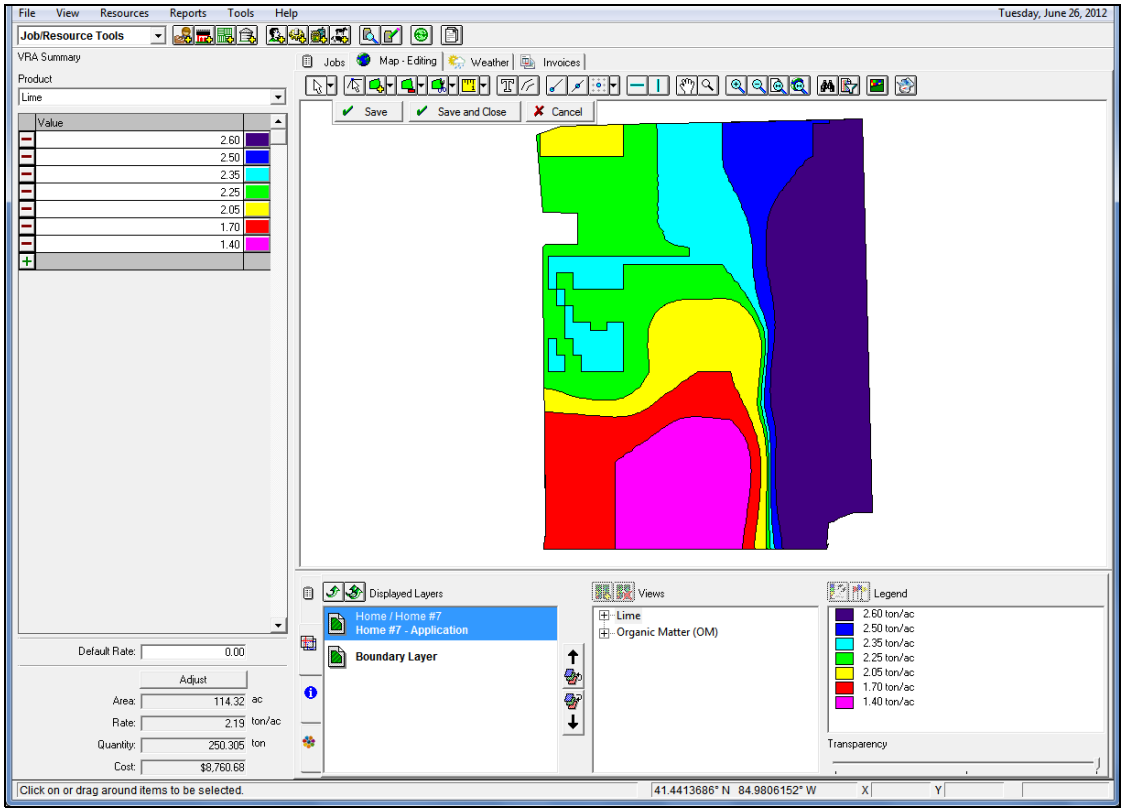
4. Right-click the view and then select *Create Application Plan*.



The *Farming* dialog appears, which enables you to create a planned VRA job.

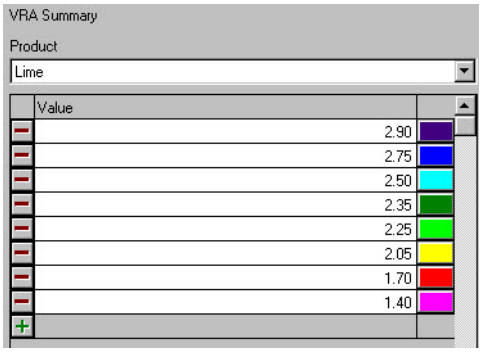


5. Make any necessary changes to the plan and then click **OK**.

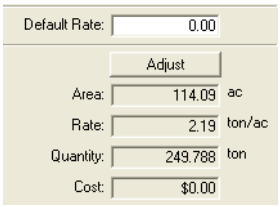


6. Enter the *Default Rate*, which is the rate applied any time the machine travels outside of the VRA map.

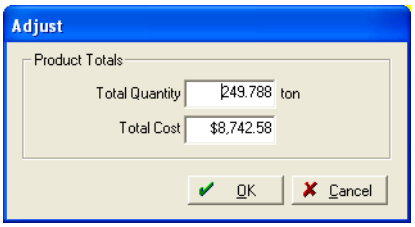
7. Select the product to be varied and then enter the prescription values into the cells that correspond with the zone colors on the map.



The average rate, total quantity, and cost are automatically calculated. This information can be extremely helpful when purchasing supplies.



8. To adjust the total quantity to be used on the job, click **Adjust** and then make the changes. This changes the rate in each zone to compensate for the added/subtracted total quantity.



9. If there is a layer visible underneath the application layer, adjust the Transparency slider to view that layer through the new application layer.
10. When you finish creating the VRA map, click **Save and Close**.

    The planned job appears under the appropriate Field in the *Jobs* tab and the *Farm* tab.

Exporting VRA maps

After you create a VRA prescription map, you can export it to use with various hardware systems, and software applications, such as the mobile mapping software.

Depending on your needs, you can export:

- Just the map as a shapefile to a removable device, such as a USB drive or storage card.
- The planned job, with the map, to a device such as a Nomad® or Juno® handheld running the mobile mapping software.
- The map, with inputs, field names, boundaries, and (if applicable) polygon variety maps to a third-party controller or monitor, using the Write Job Data process.

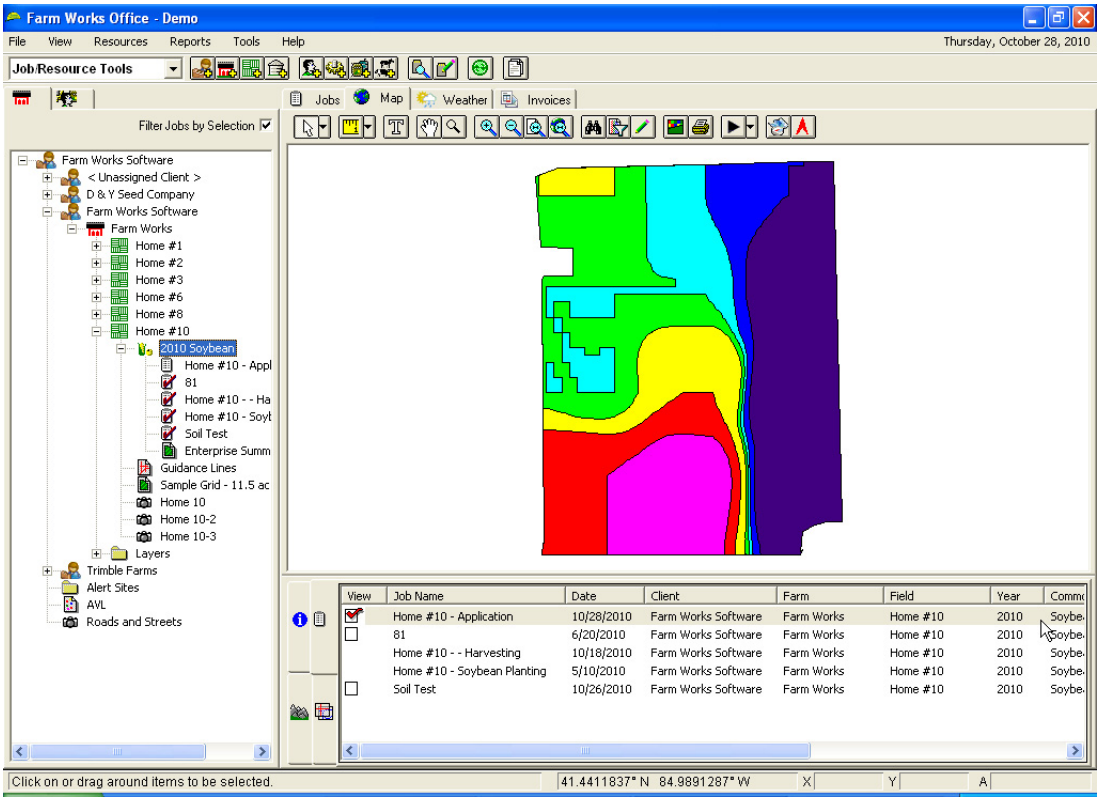
Note – *You must first create the polygon variety map, see* *Creating polygon variety maps, page 205**. The variety map can then be used for the variety locator on devices that can use variety locator features.*

Exporting a VRA map as a shapefile

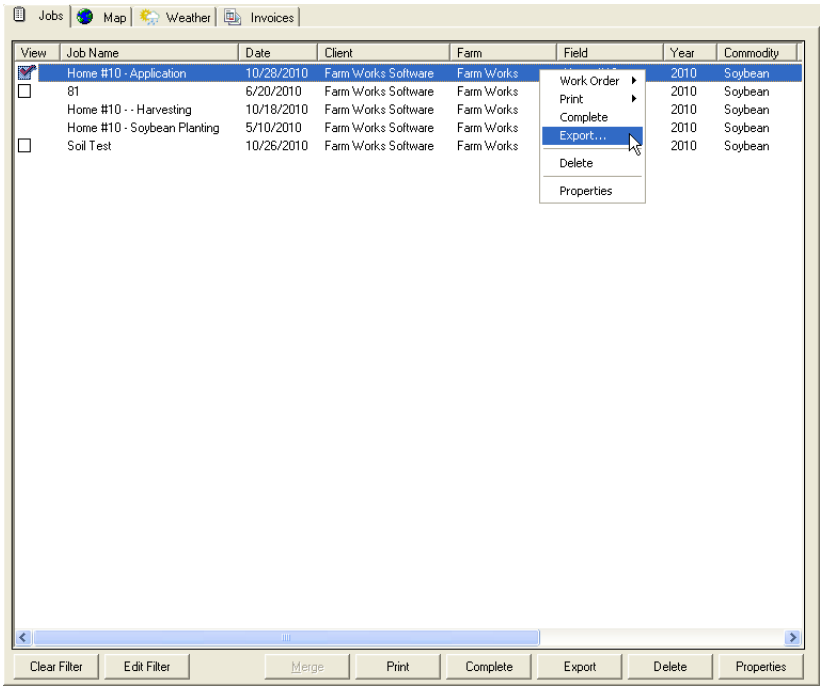
To export a VRA prescription map as a shapefile for use with a third-party variable rate controller:

1. In the *Map* tab, select the *Jobs* tab ***below*** the *Map* window.

2. Find the planned job that contains the prescription map to export and then select the *View* check box. The prescription map appears the in Map window.


Farm Works Office - Demo
File View Resources Reports Tools Help
Thursday, October 28, 2010
Job/Resource Tools
Jobs Map Weather Invoices
Filter Jobs by Selection
Farm Works Software
< Unassigned Client >
D & Y Seed Company
Farm Works Software
Farm Works
Home #1
Home #2
Home #3
Home #6
Home #8
Home #10
2010 Soybean
Home #10 - Appl
81
Home #10 - - Ha
Home #10 - Soyt
Soil Test
Enterprise Summ
Guidance Lines
Sample Grid - 11.5 ac
Home 10
Home 10-2
Home 10-3
Layers
Trimble Farms
Alert Sites
AVL
Roads and Streets
View Job Name Date Client Farm Field Year
Home #10 - Application 10/28/2010 Farm Works Software Farm Works Home #10 2010
81 6/20/2010 Farm Works Software Farm Works Home #10 2010
Home #10 - - Harvesting 10/18/2010 Farm Works Software Farm Works Home #10 2010
Home #10 - Soybean Planting 5/10/2010 Farm Works Software Farm Works Home #10 2010
Soil Test 10/26/2010 Farm Works Software Farm Works Home #10 2010
Click on or drag around items to be selected.
41.4411837° N 84.9891287° W
X
Y
A

3. Right-click the job and then select *Export*.



4. In the *Job Export* dialog, select the location to save the prescription map to, enter a name for the file and then select *Arcview shapefiles* under *Save as type*.

5. Click **Save**.

You can now copy the shapefile or use it where needed from where it is saved.

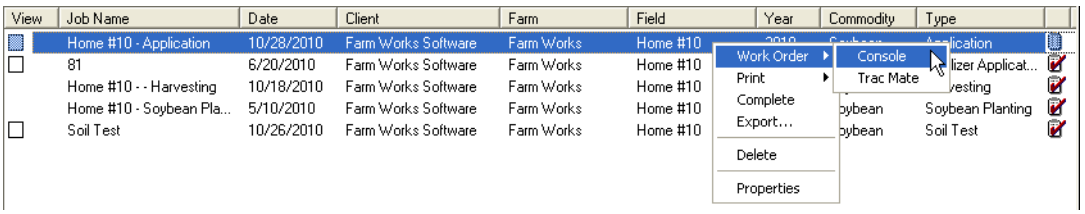
Note – *Remember when copying and pasting a shapefile that it contains three files (.shp, .shx, and .dbf).*

Exporting VRA map to a third-party controller or monitor

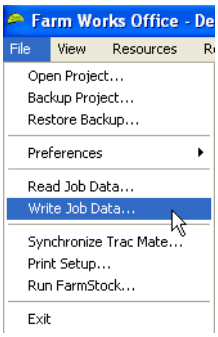
1. In the *Map* tab. select the *Jobs* tab ***below*** the *Map* window.

2. Find the planned job that contains the prescription map to export and then select the *View* check box. The prescription map appears in the Map window.

3. Right-click the job, select *Work Order* and then select *Console*.



The Write Job Export icon appears in the row for that job.

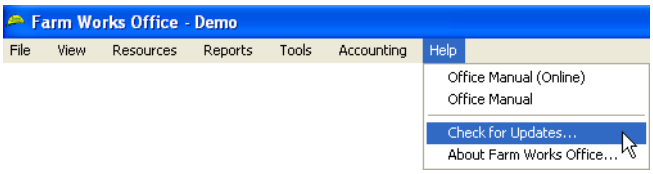


4. Do one of the following:
   - Select the Write Job Data icon .
   - Select *File* / *Write Job Data*.

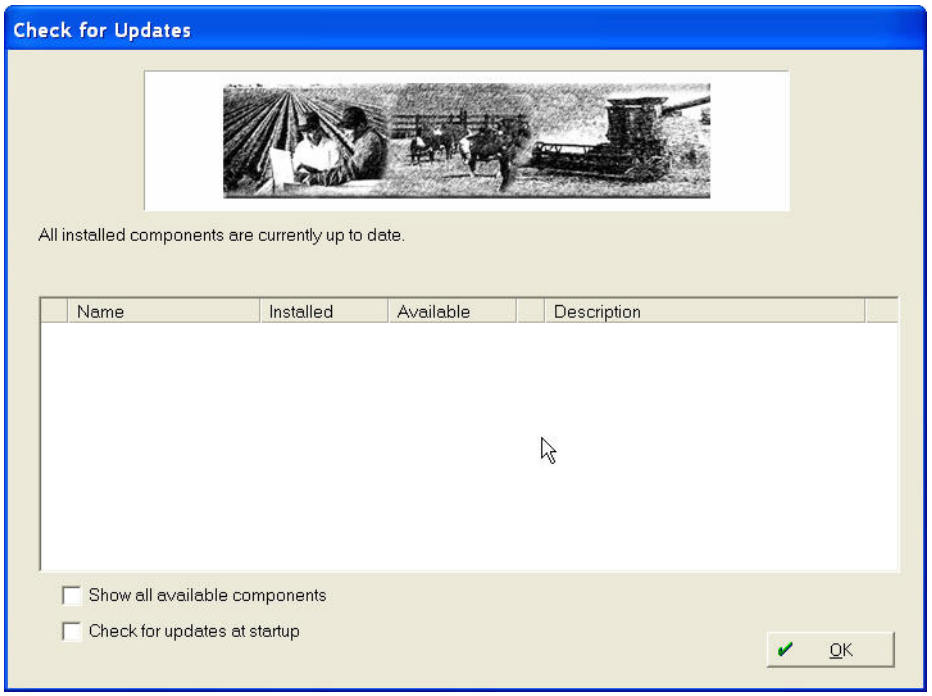
   The *Write Job Data* dialog shows third-party controllers and monitors to which that you can write VRA maps, inputs, field names, and boundaries.
5. If your particular controller or monitor is not listed click **Cancel** and then select *Help* / *Check for Updates*.

   Newer versions of data drivers or data drivers that have not been installed are listed here.

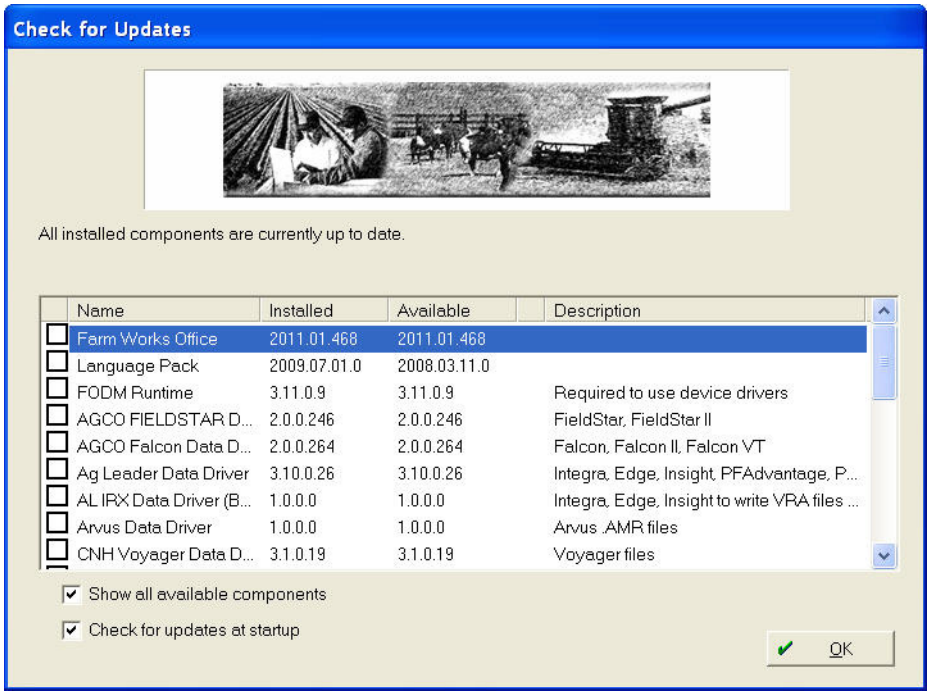
6. Check for updates:
    a. Go to the *Help* menu and check for updates.



Checking for updated data drivers (an Internet connection is required) will show all updates that are available for programs or drivers that have been installed before.

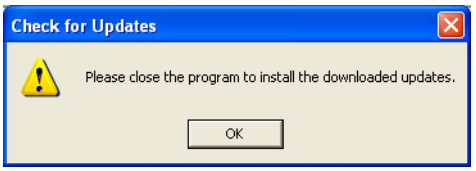


b. If you select the *Show all available components* check box, all updates that are available appear, even if they have not been installed before.



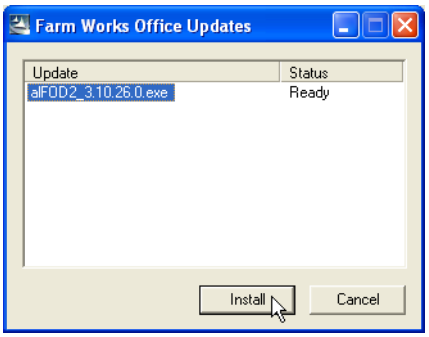
c. If you select the *Check for updates at start-up* check box, the server will check each time the program opens (an Internet connection is required).

7. To download updates, select the checkbox next to the correct driver and then click **OK.**
8. You are prompted to close the program. Click **OK**.



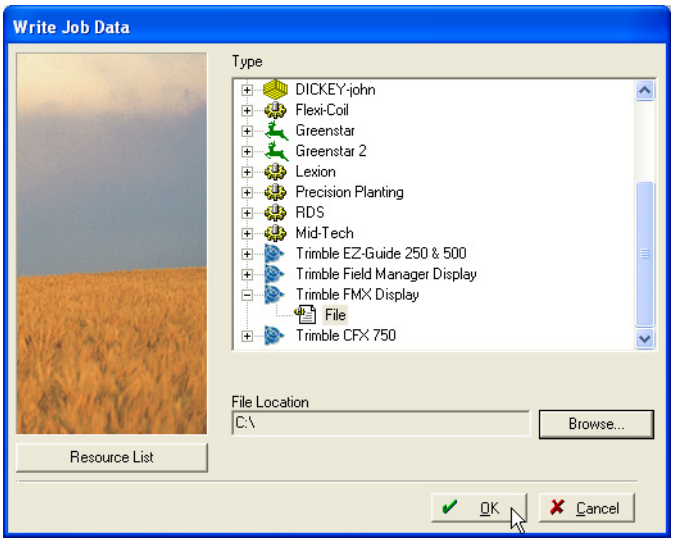
A *Farm Works Office Updates* screen appears that lists all the updates that must be installed.

9. Highlight the driver and then click **Install**.



10. Continue the procedure to complete the driver installation.
11. When prompted to restart the software, click **Yes**.

12. With the program opened continue the import process.



13. In the *Write Job Data* dialog, click the plus sign next to the correct third-party device.

    Depending on the device, there may be several formats for writing information.

14. Select the correct format, so that it is highlighted.
15. Click **Resource List**. Here you can limit the Clients/Farms/Fields and Inputs that will be written out along with the planned job.

Note – *If you have selected to write out to a Trimble FmX integrated display, there is a Job Types option that enables you to send only certain Job Types or events to the display.*

16. Depending on the selected device, you may have an Advanced Setup option with settings that also depend on the selected device. Complete the options as appropriate.
17. Click **Browse** to select the drive reading your removable device, such as a Storage Card or USB.
18. Highlight the correct drive in the *Browse for Folder* window and then click **OK**.

    The correct drive now appears under *File Location*.
19. Click **OK**. A progress bar appears while the software writes the selected information.
20. When the confirmation message appears, click **OK**.

21. You can now take the card to your device.

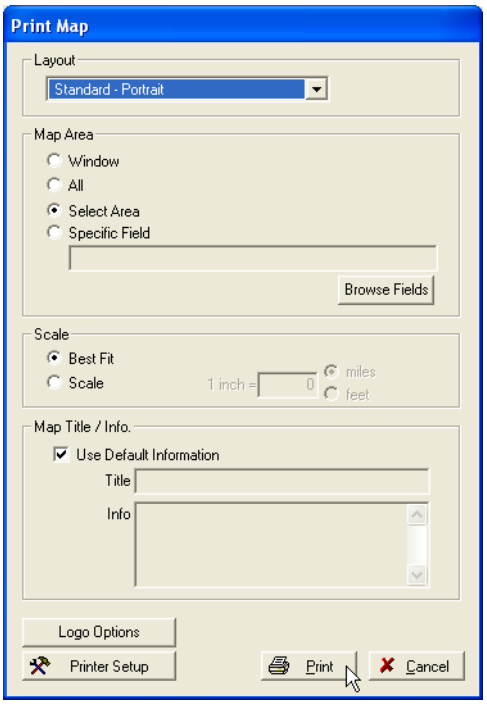
Note – *You can write the Inputs and Farm/Field information to a third-party device without selecting a job for export.*

Printing maps

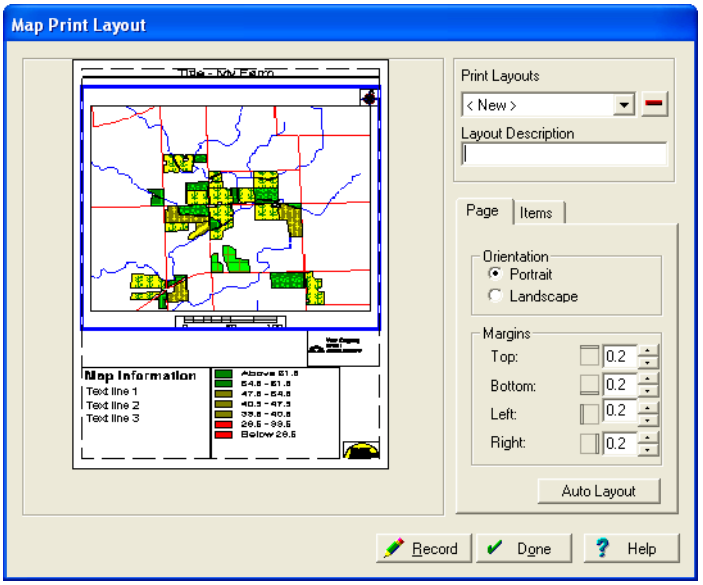
When printing maps, the legend that was created for the map (including histograms and descriptions), as well as details about the job are included on the printout.

To print a map of yield or as-applied data:

1. From *Job/Resource Tools*, click the Map Report icon .
2. Under *Layout*, select the layout to use: Portrait and Landscape are standard layouts. To create your own layout, select *<Add/Edit>*.



3. If you select *<Add/Edit>*, the *Map Print Layout* dialog appears.



   a. Enter a description and then select the orientation of your page.

   b. If required, change the margins of the printed area on the paper.

   c. If required, adjust the size of the items on the page: Select items and then drag their borders.

   d. To remove an item select it and then press Delete.

   e. To move an item, drag-and-drop it.

   f. In the *Items* tab, select items (to add to the page) or deselect items (to remove from the page).

   g. To save and apply your layout, click **Record** and then click **Done**. This layout now appears in the drop-down list for future use.

4. Select the area to print:

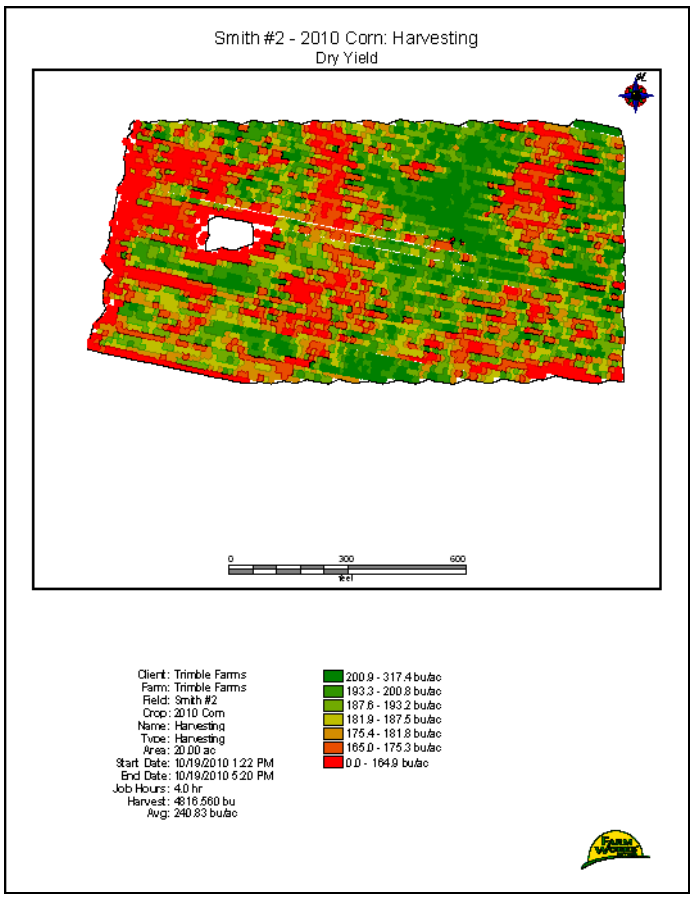
   - *Window* prints whatever is on the *Map* tab.
   - *All* prints all of the displayed layers and zooms out to the full extents.
   - *Select Area* allows you to drag a box around the area to print.
   - *Specific Field* prints only the field you choose.

Note – *You can click-and-drag the bars to the left and bottom of the map area to change the size of the map window. This changes what will be printed if you select Window. Once set, it will continue to print in that aspect ratio.*

5. You can enter a specific scale or select best fit, which scales the map to fit the paper.

6. You can choose to print the map with the default information or you can give the map a title and then enter map information.

7. Under *Logo Options*, you can choose to print the software logo in color or black and white. You can also choose to print a personal logo on the map.
8. Under *Printer Setup*, choose which printer to use.
9. Click **Print**. View the map in the *Print Preview* screen and then print it.



CHAPTER 5

Mapping Analysis

In this chapter:

- Enterprise summary
- Normalized yield
- Generating formulas

The software provides critical analysis tools for multi-year yield averaging, profit/loss mapping, and formula-based VRA (Variable Rate Application) prescription maps.

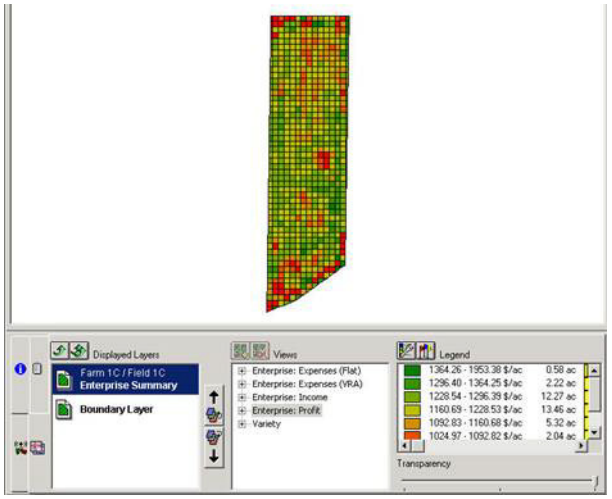
Enterprise summary

Below each Crop Enterprise is an Enterprise Summary (Area layer map) with the following *Views*: Expenses (Flat), Expenses (VRA), Income, Profit, and Variety.

The Enterprise Summary layer shows the best and worst profit areas graphically:

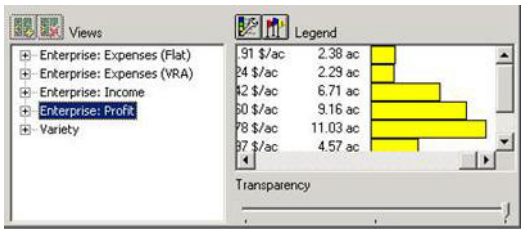
- If you are using Variable Rate Application on your farm, the costs will be varied across the fields, based on where more or less product was applied.
- If you are using a yield monitor, the crop revenues are spread across the field based on the yield data.
- If you are just using the Farm Works Mapping software, costs are based on the costs that you manually entered for each input.
- If you are also using the Farm Works Accounting software, the costs are based on the actual costs incurred which includes indirect costs such as land rents and overhead costs.

To view this in the *Map* tab, double-click the Enterprise Summary.



To see the breakdown under *Legend*, click a View.

Move the legend cursor to the right to see the acreage graph breakdown.

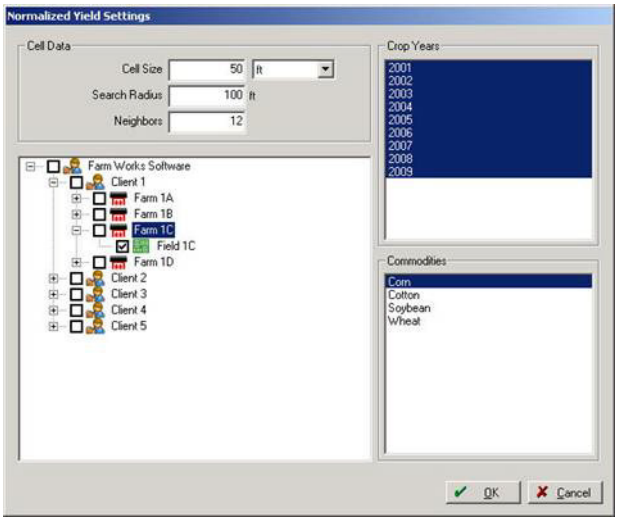


Double-click another Enterprise Summary so that two statements appear above the boundary. Using the Transparency slider to fade out the top layer provides a fast comparison, as the high and low colors are the same for each.

Double-click additional Enterprise Summaries; under the displayed layer, highlight each individually to view Legend details.

Normalized yield

1. In the *Farm* tab tree view, right-click a Field and then select *Normalize Yield.*



Field		Action
Cell Data	Cell Size	Enter the size of each field cell. The default unit is ft (feet).
	Search Radius	Enter a Search Radius size. The search radius will extend from the center of a cell to the number entered here. In this example, the search begin in the center of a 50 ft. cell and extend to a 100 ft. radius.
	Neighbors	Enter the number of Neighbors to be included in the data. In this example, 12 neighbors are included. If fewer than 12 neighbors are in the radius, all are included. If more than 12 neighbors are in the radius, the 12 nearest neighbors are included.
Crop Year		Select the Crop Year from which the data is to be derived. In this example, all years are selected. Usually you will want to exclude any years that do not reflect typical years, for example, extremely dry or wet years. If you are normalizing the data for just one crop, the program automatically ignores any years that do no have this crop.
Commodities		Select one or more Commodities to include.

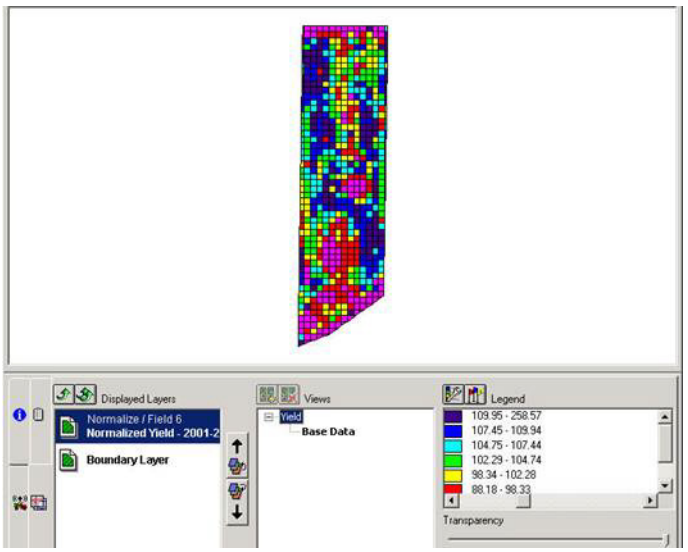
Tip – When the program creates a normalized map, it puts each year's yield map on a scale of 100 where 100 represents 100% of the average yield for that year. For example, if a field averaged 200 bushels per acre, and one cell has a value of 180, it receives a value of 90 (which

represents 90% of the average yield of 200). Once each year has been put to a scale of 100, all the selected years are averaged together. This makes it possible to average yields from different crops together.

2. Click **OK**.

   The Yield Normalization map appears under the Crop Enterprises of the selected Field(s) as an area layer.

3. Double-click the layer to view it on the *Map* tab. A Legend is automatically created for this normalized data.



Generating formulas

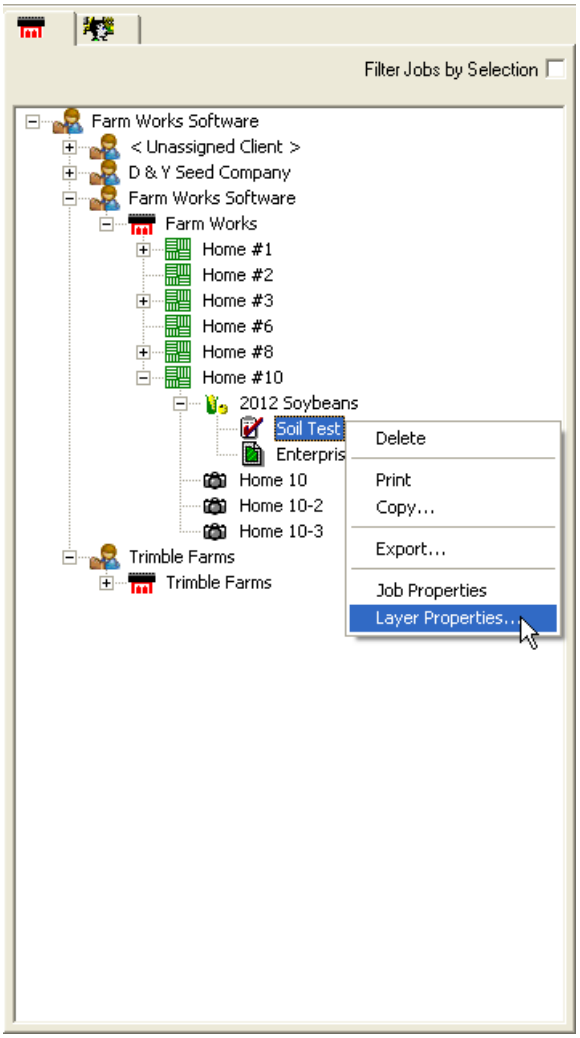
The software includes a Tri State recommendation example formula. This option appears automatically.

To set up Formulas, select *Resources* / *Formulas*.

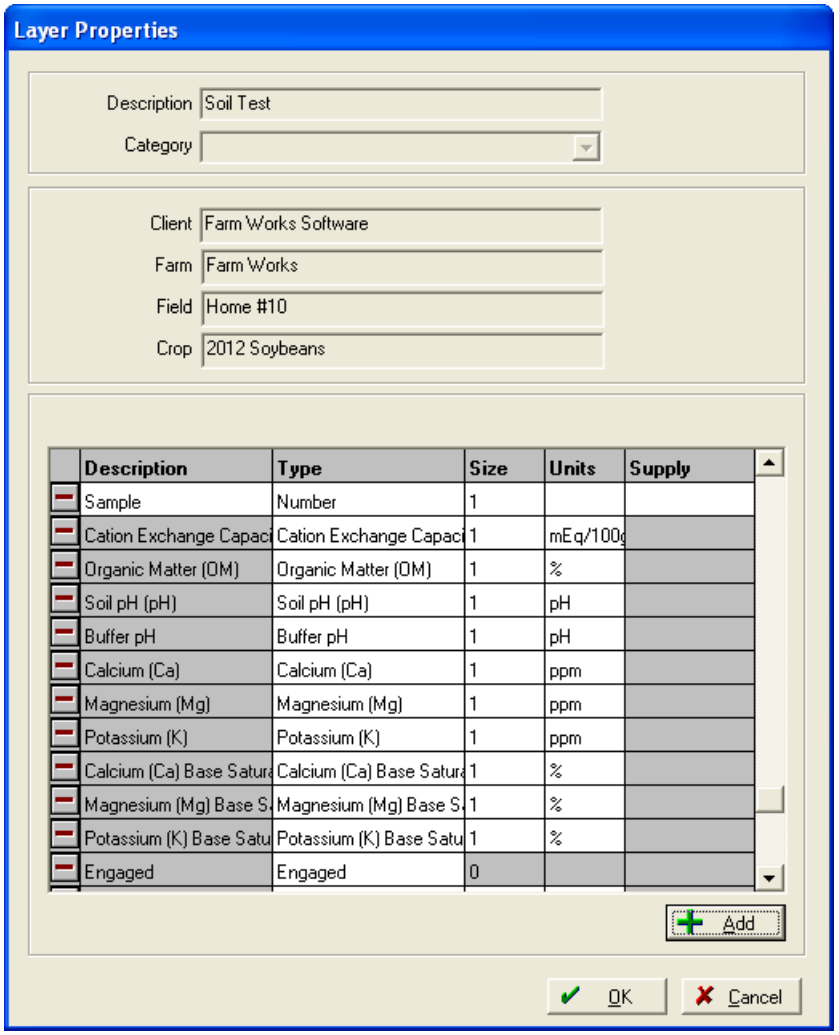
Note the following:

- You cannot use formulas on an area/polygon layer or on an average view of a point layer. To use formulas, you must have a grid view of a point layer. See Adding grids or contours to a map, page 228.
- Gridded views will include all attributes on the layer accessible to formulas.
- Currently, any data item that is to be used in a formula must be a defined attribute type such as pH, N, P, K, and so on. You cannot use a Number attribute in a formula.
- To verify that the attributes are defined correctly, do the following:

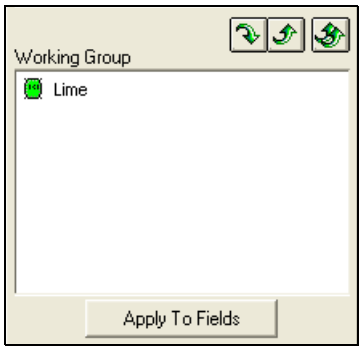
a. In the *Farm* tab, right click the job or layer you want to use to create the formula prescription and then select *Layer Properties*.



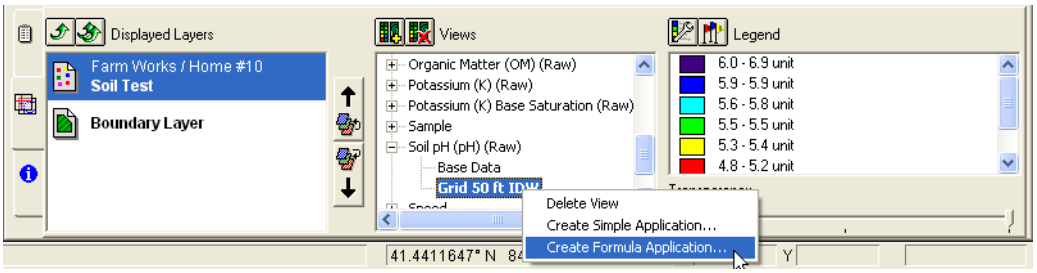
b. Verify that the Attributes being used to create the formula application do not have Number as the *Type*.



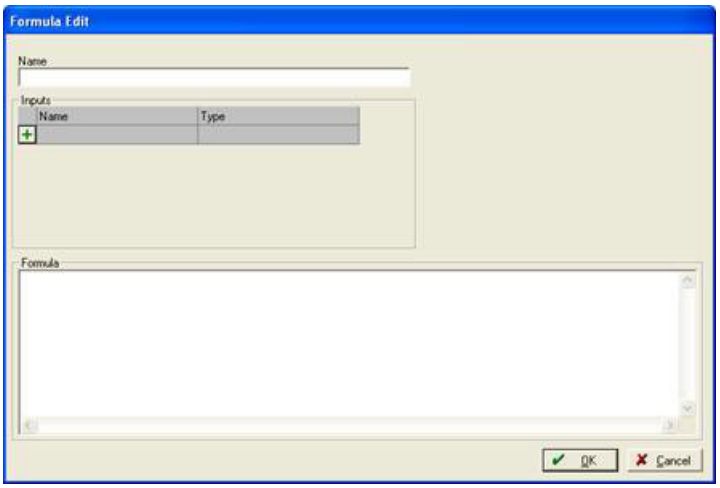
- Before you create a prescription from a formula, move the supply to be varied (fertilizer, seed, and so on) from the *Inputs* tab to the Working Group.



- Right-click in the *Attribute* area on the view (grid or contour for point data) of an attribute to be used and then select *Create Formula Application*.



- Existing formulas appear in the drop-down list. You can select an existing formula to use it or edit it. Alternatively, select *<New>* to create a new formula.
  - Creating a new formula creates a new .xml file in the Formulas folder below the directory where the software is installed (typically C:\farmproj).
  - You can email formulas for the use of other users that have this software installed.
- To set up a new formula:



a. Enter a *Name* for the formula.

b. Click **+** to add all the variables used in the formula. Variables are the items such as soil pH, N, P, K, and so on that will be used in the formula.

c. Select from *Type* and then enter an attribute name. Attribute names should be as short as possible so that they can easily be entered into the formula.

d. Select *Constant* for anything that you want to manually enter a value for.

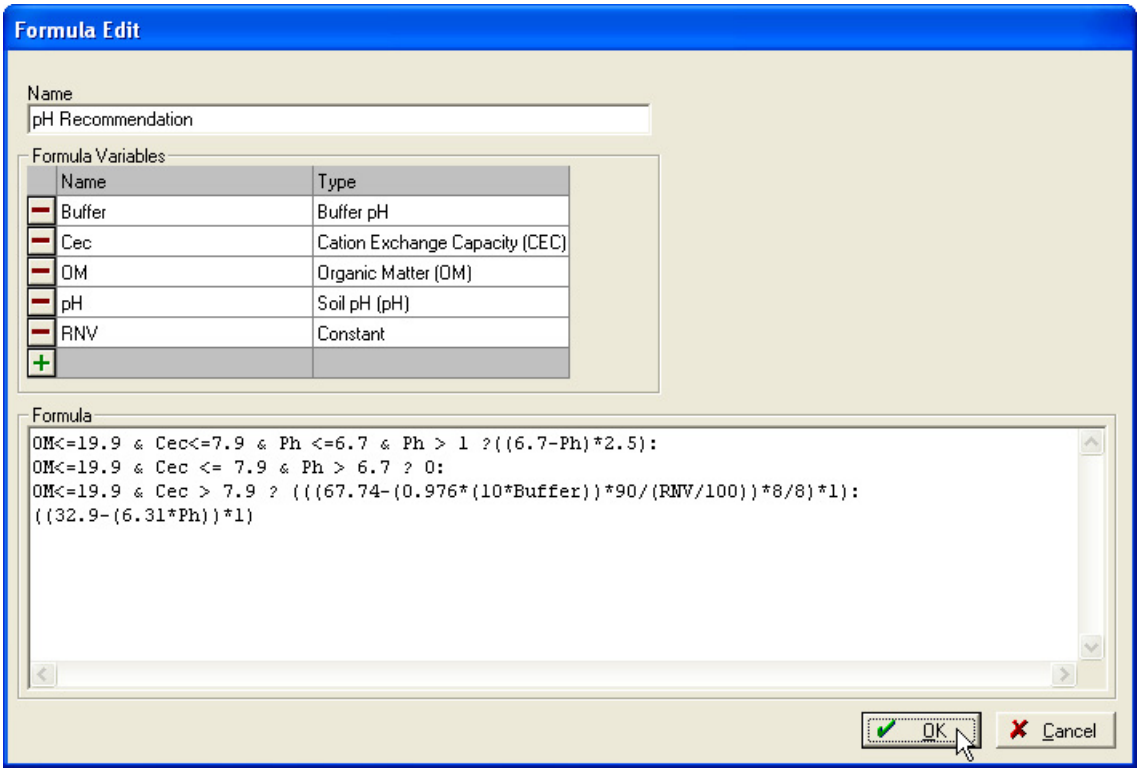
   When you set up a constant in a formula, you are prompted for the value when you run the equation. For example, if a formula uses a *Yield Goal* where you want to enter the yield goal for next year's crop to be used in the formula.

The following operators are available:

Operator	Meaning	Example
?	If/then	pH<5 ? 6 If the pH is less than 5, it uses 6.
:	Else	pH<5 ? 6: 7 If the pH is less than 5, it uses 6. Otherwise it uses 7
	Every *If* statement must have at least one *Then* statement. You cannot have just: **pH<5 ? 6** You need at least: **pH<5 ? 6 : 0**. In which case the rate would be 6 if pH is less than 5 and zero in all other cases. If you have multiple *If* statements, the software processes them sequentially. If the first *If* applies, it does not look at any remaining statements. So the results of the following statements: **K > 2.9 ? 0:** **K > 2.7 ? 50:** **K > 2.5 ? 100:** **K > 2.1 ? 125:150** Are the same as this: **K > 2.9 ? 0:** **K > 2.7 & K <= 2.9 ? 50:** **K > 2.5 & K <= 2.7 ? 100:** **K > 2.1 & K <= 2.5 ? 125:** **K <= 2.1 ? 150: 0**	
<	Less than	
<=	Less than or equal to	
>	Greater than	
>=	Greater than or equal to	
&	And	pH<=5 & pH >= 4 ? 1,000 : 0 If the pH is less than or equal to 5 ***and*** greater than or equal to 4, it uses a rate of 1,000. Otherwise, it uses a rate of zero.
+	Plus	
-	Minus	
*	Multiply	A variable followed by a number is assumed to be multiplication. 5pH is assumed to be 5 * pH.
/	Divide	
^	Power	x^2 is x squared.

Operator	Meaning	Example
()	Set priorities	The default order is division, multiplication, addition and then subtraction. So X+2*3/4 is processed as ¾ then * 2 then add to x. To specify the order, enter **((x+2)3)/4**. This is processed as X +2, the result is multiplied by 3 and the result of that is divided by 4.
#	Comments	Everything after # is ignored and not used in the formula. Typically, this is added to the end a formula to explain what it is for. K < 75+2.5*CEC ? yield_potential*0.27 + 20 + (75+2.5*CEC - K)*(1 + 0.05*CEC) : #buildup

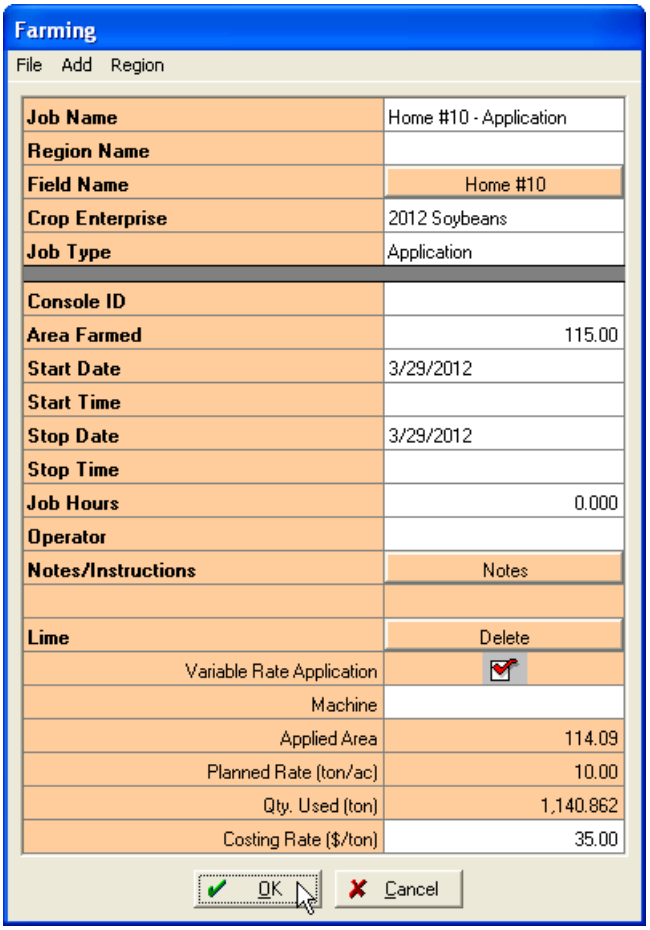
Note – *The software attempts to strip out spaces in a formula.*



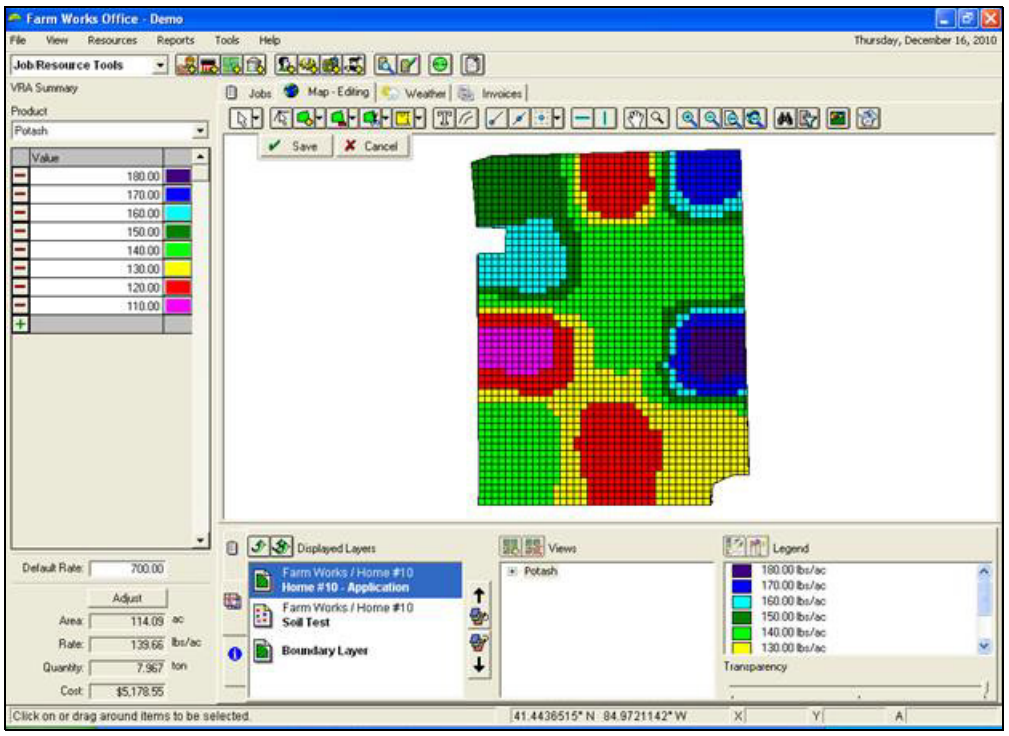
4. In the *Prescription* dialog, select the correct *Formula*, enter the required *Settings* and then click **OK** to create the formula prescription map. The options are:
   - *Rounding:* Determine how the generated values are to be rounded. If you enter a *Rounding* value of 10, and the formula calculates, for example, a value of 7, it will be rounded to a rate of 10.
   - *Minimum*: The program will assign the minimum value to any area where the generated number is equal to or less than the minimum value. For example, if a minimum value of 10 is entered, when the formula is generated any value equal to or less than 10 will be assigned a value of 10.

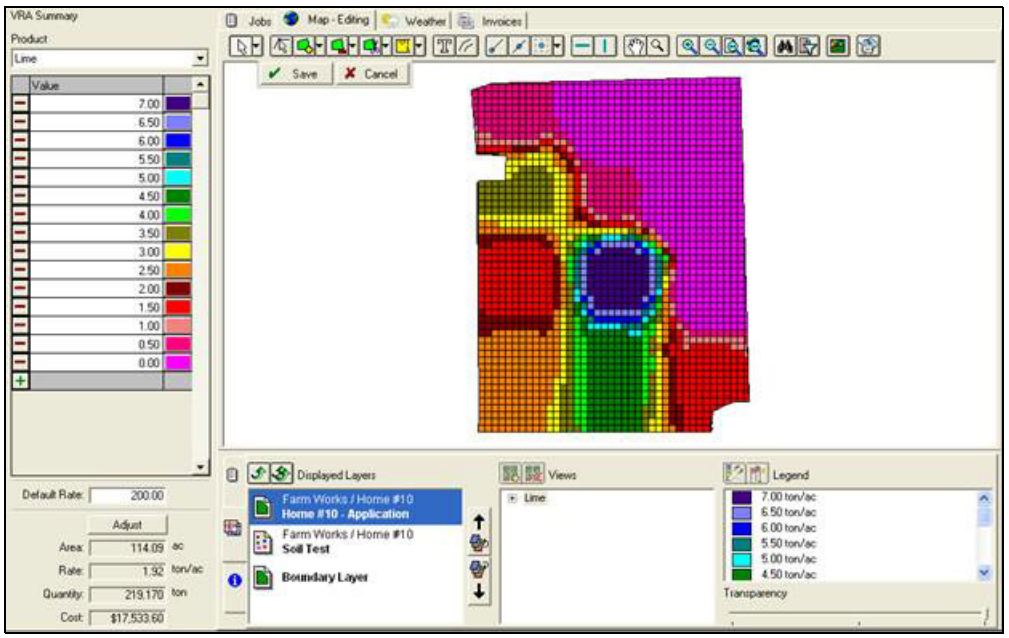
- *Maximum*: The program will assign the maximum value to any area where the generated number is equal to or greater than the maximum value. For example, if a maximum value of 350 is entered, when the formula is generated any value equal to or greater than 350 will be assigned a value of 350.
- *Default Rate*: The Default Rate has no effect on the rates that will be calculated with your formula. This is a default rate that is sent to some variable rate controllers. Typically the Default Rate is the rate that the controller uses when it has a GPS position that is located outside the Variable Rate Prescription map.

5. Once the map is created, the *Planned Farming* dialog appears. This allows you to create a *Planned Job*. If required, you can change the *Job Name* to a description that helps identify the job. This is useful when you wants to run multiple scenarios of a formula (for example, with different Yield Goals). In this case, you can enter *Job Names* such as Aggressive, Conservative, and Average.



6. Click **OK** to record the planned job. The formula-based prescription map should now appear in the *Map* tab. For more information on editing prescription maps, see Chapter 4, Mapping Software.





CHAPTER 6

Office Sync

In this chapter:

- Overview
- Using Office Sync
- Using the VarioDoc account

The Office Sync tool is an addition to the software suite. It provides wireless data transfer capabilities and enhanced information management for growers and agribusinesses.

See also Chapter 4, Mapping Software.

Overview

The Connected Farm software can be used with wireless-capable displays including the following:

- Trimble FmX integrated display.
- Trimble CFX-750 display.
- Devices running the Windows operating system and with the Farm Works Mobile software installed. These include the Trimble Juno® 3D, Nomad® T41X and Yuma® 2 CX & CLX handhelds.
- Agco Varioterminal display (when used with Agco VarioDoc).
- Smartphones and tablets (such as an iPhone, iPAD, or Android Phone) with the Connected Farm App installed.

You no longer need a memory card or storage device to link the field to your office.

When you collect data in the field, the software saves it securely and then transfers it as required. This data can include planned and completed jobs, guidance lines, soil sampling and scouting maps, application maps, and variable rate prescription maps.

This data can include work orders with variable rate prescription maps. Once you complete a job in the field, you can send the “as applied” map to the office to streamline data management.

Using Office Sync

Trimble Office Sync uses a web server to upload and download data.

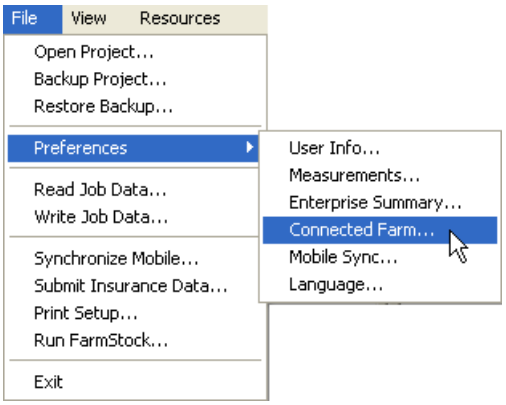
Working with mobile devices

Office Sync works with your mobile device as follows:

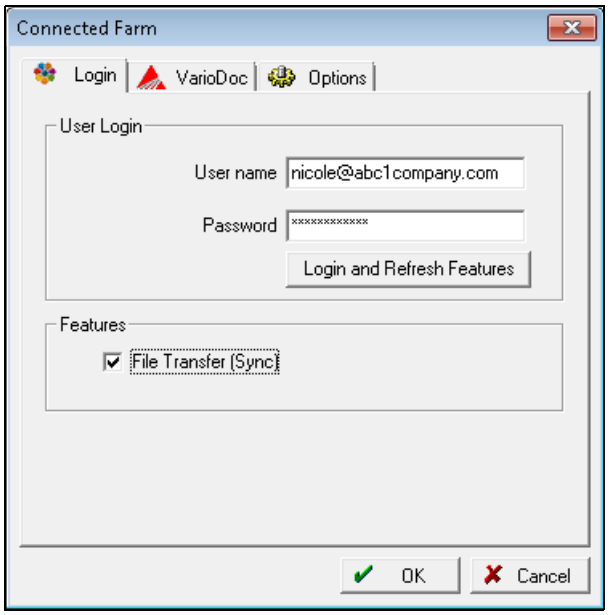
- The Office Sync module communicates with the Office Sync server on a regular basis—typically, every minute. Each time that it communicates, it uploads any new information that was created in the desktop software to your Office Sync storage area. This includes clients, farms, fields, inputs (supplies and equipment), and guidance paths that were selected using the **Resource List** button.
- Mobile devices such as an FmX integrated display or a device with the mobile mapping software loaded, or smartphones that have the Connected Farm App installed, look for updated information such as clients, farms, fields, inputs, and guidance paths to download from your Office Sync storage area.
- When communication is established, jobs that are completed in the field (using required hardware) are sent to the web server. If a mobile device loses communication with the web server, completed jobs are sent once it re-establishes communication. All data is safe and secure.
- The Office Sync module checks your Office Sync storage area for any completed jobs, which it then downloads to your computer hard-drive. It also notifies you of the number of jobs associated with each mobile device.
- The Office Sync module enables you to send work orders from a desktop computer, through your Office Sync storage area on the server, to a remote device.
- The Office Sync server backs up your raw data in your storage area, even after it is downloaded to your desktop software.

Logging in to your Office Sync account

1. Select *File* / *Preferences* / *Connected Farm*.

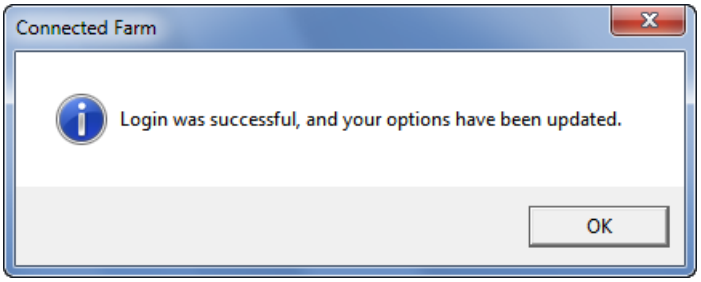


2. Enter your *User name* and *Password*. This information is provided to you when you order your Office Sync service. This is typically done through the online store or through your reseller.



3. Click **Login and Refresh Options**. The system verifies your Username and Password and confirms that the login was successful.
4. Select the *File Transfer (Sync)* checkbox to enable the Office Sync features.

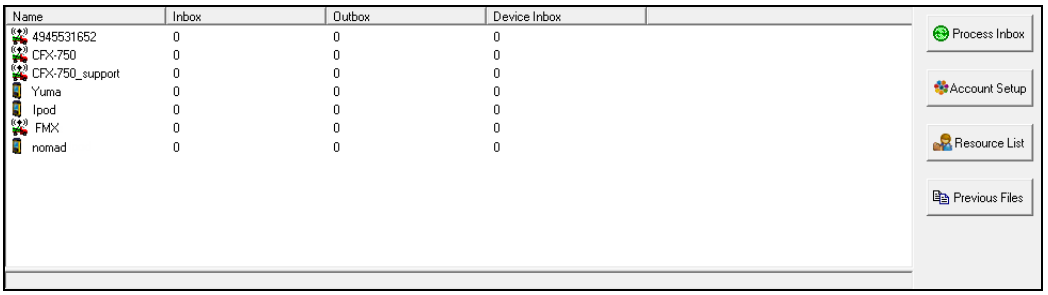
5. Click **OK** to confirm and then click **OK** in the *Office Sync* tab to return to the main program.



Note – *You need to enter this information only once, unless you have to reinstall the software from scratch, for example, after a computer failure or on a new machine.*

Office Sync tab

The *Office Sync* tab shows all of the remote devices that are linked to your Office Sync account.



Each device shows the following information:

Column	Description
Name	The name of each device. The name is set up on the mobile device—the FmX display or a device with mobile mapping software installed.
Inbox	The number of jobs completed on the mobile device, uploaded to the Office Sync server and then downloaded to the computer hard drive. These jobs are not added to your project until you click **Process Inbox**. Jobs are then removed from the Inbox and added to your project. This functionality is available if you are using the Sync services.
Outbox	To upload resources (Clients, Farms, Fields, Inputs, and A/B lines) to the Office Sync server, click **Resource List.** The resources wait in the Outbox until the Office Sync module communicates with the server (typically, once a minute), then they are uploaded. If your desktop computer is not currently connected to the Internet, jobs wait in the Outbox until a connection is established. This functionality is available if you are using the Sync services.
Device Inbox	Once Resources or Work Orders are sent to the Office Sync server, they are assigned to an Inbox for a specific device. They stay in the Device Inbox until that device has a valid wireless connection and is communicating with the Office Sync server, at which time it downloads the items. This functionality is available if you are using the Sync services.

To sort the mobile devices list, click a column header as follows:

Header	Action
Name	Devices are sorted alphabetically according to their device name. To reverse the order, click again.
Inbox, Outbox Device Inbox	Devices are sorted according to the number of jobs in that category: Those with the least number of jobs are listed first. To reverse the order, click again.

Uploading resources

Use the desktop software to create resources such as clients, farms, and fields. Resources also include inputs, such as supplies and equipment, and guidance lines. Use the Office Sync software to synchronize the latest resources with your mobile devices.

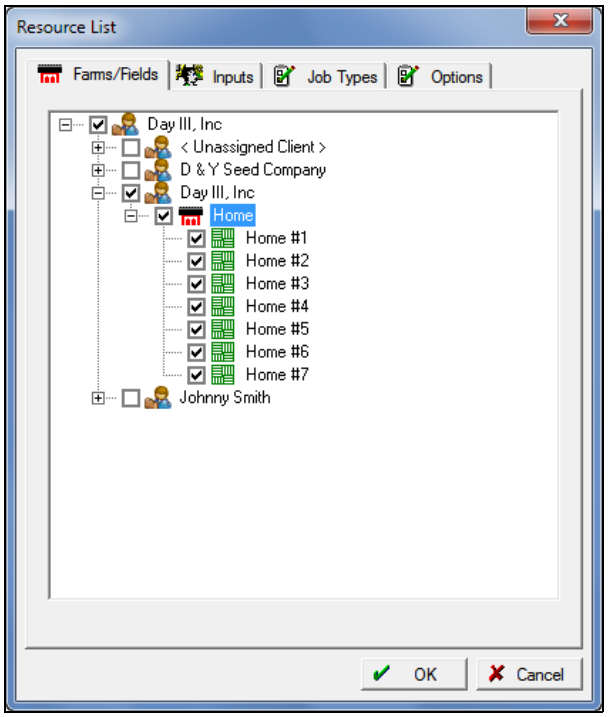
The Resource List icon

Click **Resource List** to upload the latest resources to the Office Sync server so that they can be downloaded to mobile devices. You can also use this option to limit which resources are uploaded, which is useful if you want to load only the fields for a certain client or farm that will be worked, for example.

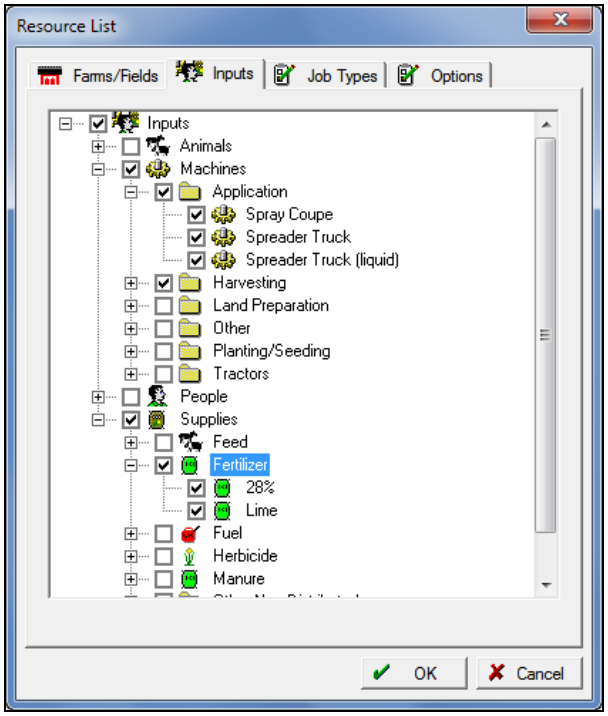
To update the *Resource* list on your Office Sync area:

1. Click **Resource List**.

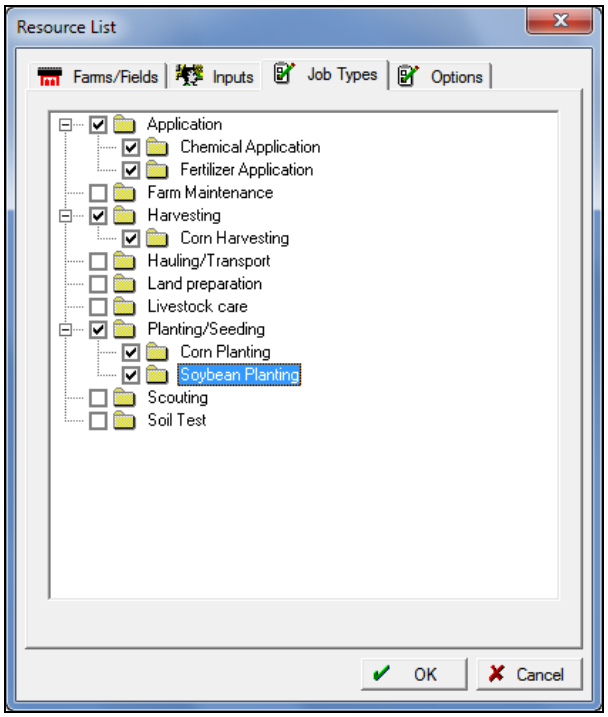
2. In the *Farms/Fields* tab, select the Clients/Farms/Fields to upload.



3. In the *Inputs* tab, select the People/Equipment/Supplies to upload.

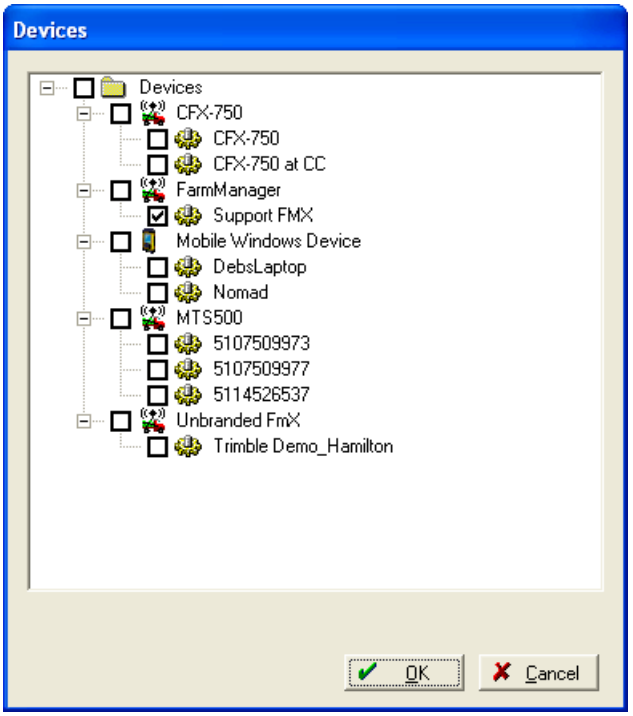


4. Select the Job Types tab to select and then send certain Job types or events to the FmX display.



5. Select the *Options* tab to send field boundaries and/or field history when using the Office Sync module with a handheld device running the Mobile software, for example the Nomad handheld running the mobile mapping software. See also Synchronizing with the Mobile software, page 302.
6. Click **OK**.

7. Select the Mobile Device(s) to upload the resources to and then click **OK**.



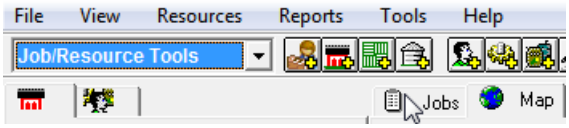
The selected resources are added to the Outbox for the mobile devices that you chose. As soon as the software communicates with the Office Sync server (typically, once a minute when you have Internet access), the data is uploaded and moved to the Device Inbox where it stays until the mobile device downloads the resources.

Sending a Work Order

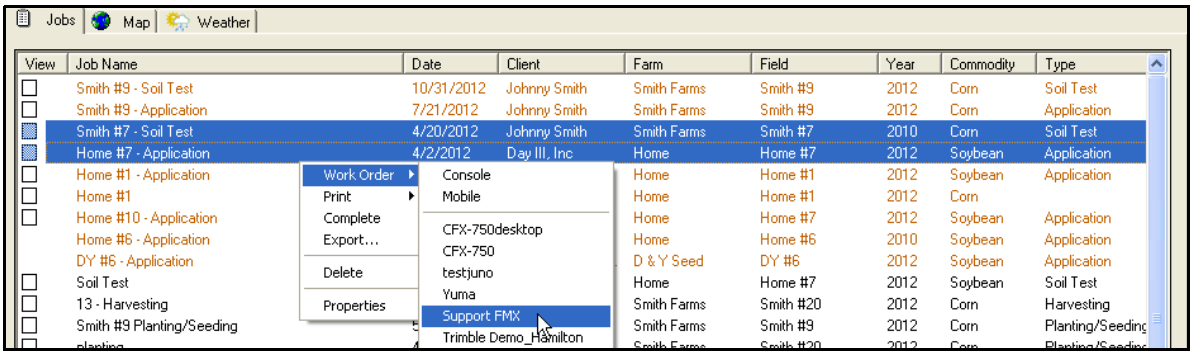
A Work Orders consists of a planned job to be performed on selected fields. It can include people, equipment, supplies, and maps (such as variable rate and target soil sample maps). Use the Office Sync module to send a Work Order to mobile devices, such as an FmX integrated display or a device with the mobile mapping software loaded, through the Office Sync server.

Note – *Work orders cannot be sent to a smartphone that has the Connected Farm App installed.*

1. Select the *Jobs* tab.



2. Select the planned job(s) to send. To select multiple jobs, hold down the computer Ctrl key as you click each job. Planned jobs appear in brown text.


Jobs
Map
Weather
View
Job Name
Date
Client
Farm
Field
Year
Commodity
Type
Smith #9 - Soil Test 10/31/2012 Johnny Smith Smith Farms Smith #9 2012 Corn Soil Test
Smith #9 - Application 7/21/2012 Johnny Smith Smith Farms Smith #9 2012 Corn Application
Smith #7 - Soil Test 4/20/2012 Johnny Smith Smith Farms Smith #7 2010 Corn Soil Test
Home #7 - Application 4/2/2012 Day III, Inc Home Home #7 2012 Soybean Application
Home #1 - Application Home Home #1 2012 Soybean Application
Home #1 Home Home #1 2012 Corn
Home #10 - Application Home Home #7 2012 Soybean Application
Home #6 - Application Home Home #6 2010 Soybean Application
DY #6 - Application D & Y Seed DY #6 2012 Soybean Application
Soil Test Home Home #7 2012 Soybean Soil Test
13 - Harvesting Smith Farms Smith #20 2012 Corn Harvesting
Smith #9 Planting/Seeding Smith Farms Smith #9 2012 Corn Planting/Seeding
Work Order
Print
Complete
Export...
Delete
Properties
Console
Mobile
CFX-750desktop
CFX-750
testjuno
Yuma
Support FMX
Trimble Demo_Hamilton

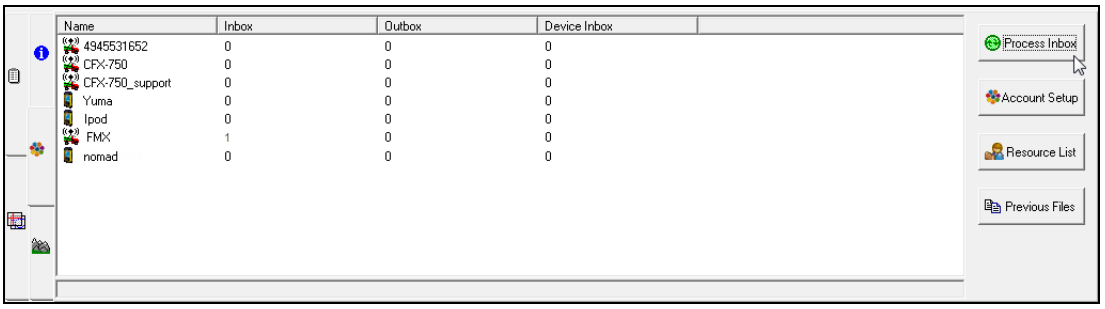
3. Right-click, select *Work Order* and then select the mobile device to send the job to.

   The job is sent to the Office Sync server. Once the mobile device communicates with the server, the job is transferred.

Processing the Inbox

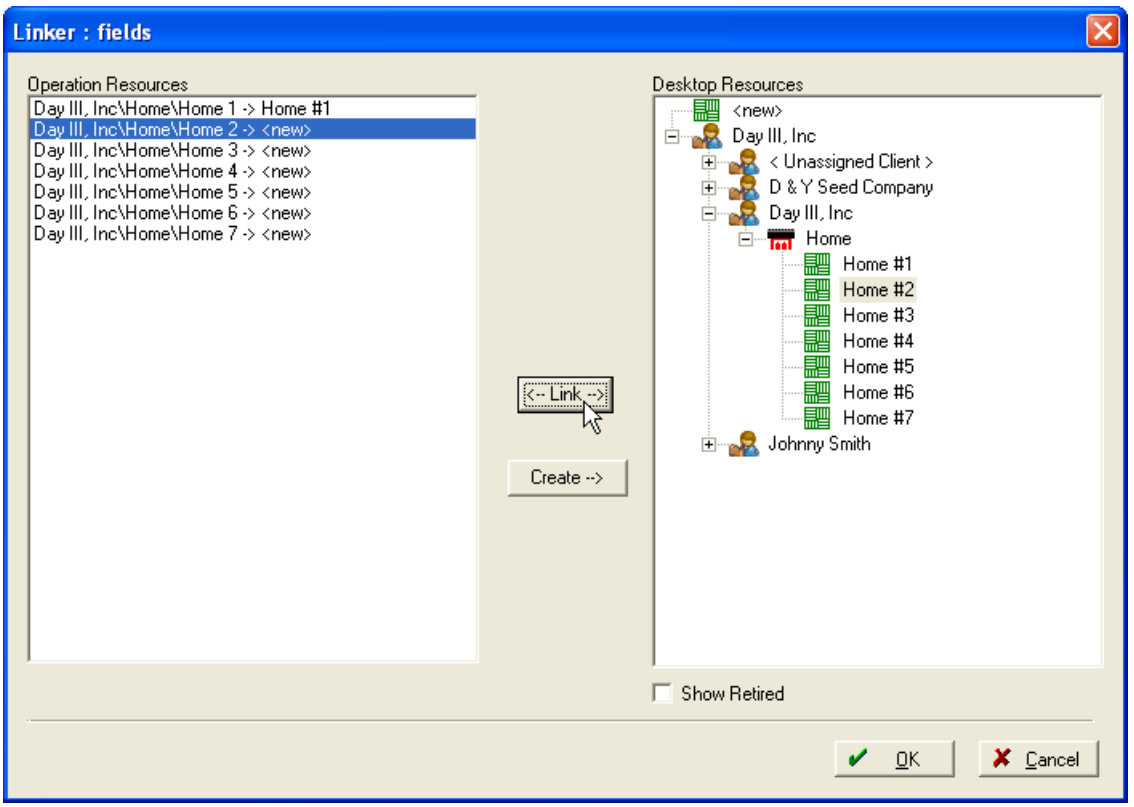
As mobile devices complete jobs, they are uploaded to the Office Sync server. The Office Sync module downloads these jobs as they are completed and saves them in the Devices Inbox. This data can then be processed and imported to the Farm Works Mapping or Farm Works Surface software so that you can print reports or maps, and analyze the data. To process the Inbox and read the job data into the software:

1. In the *Office Sync* tab, click **Process Inbox**.



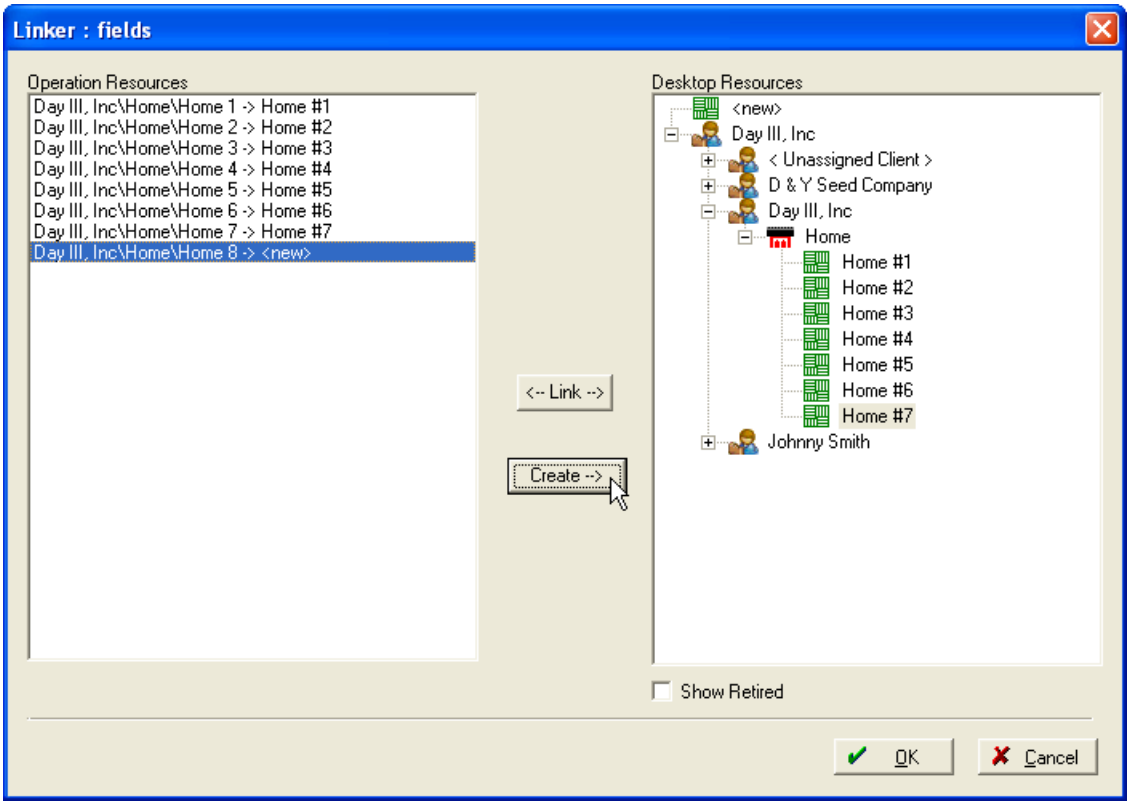
If the jobs being imported include any new items such as Clients, Farms, Fields, or Inputs, the *Linker* dialog appears. The *Operation Resources* list shows the name of the item as it was entered on the mobile device. The Desktop resources list shows available resources as they were set up in the desktop software.

2. To link these lists, select the appropriate item in each list and then click **<-Link->**.



3. ***Before*** you click **Create**, do one of the following:
   - To use an existing Client or Farm, select it in the *Desktop Resources* list.

- If the item is new, select it from the *Operation Resources* list. In the *Client/Farm* and *Field Properties* dialogs that appear, enter information to create a new Client, Farm, and Field.

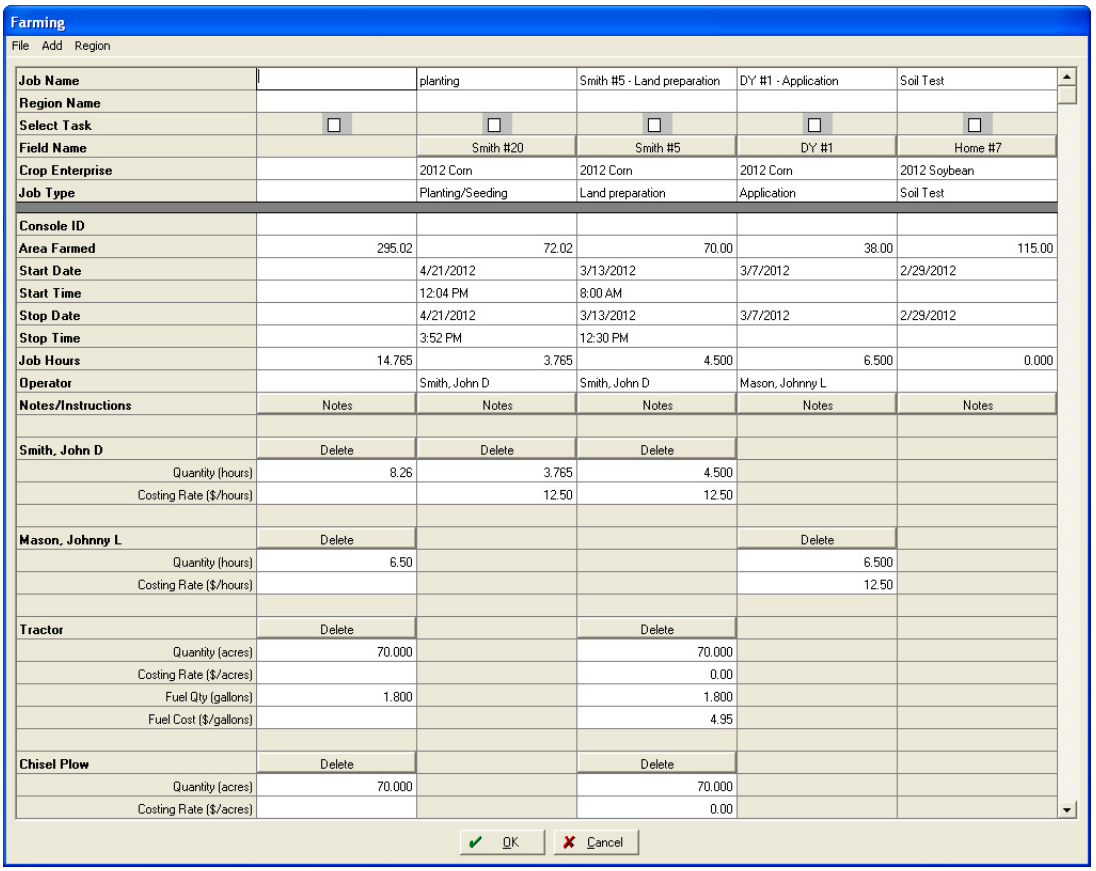


4. If the job contains any new inputs (such as supplies or equipment), you can also link the new items or create them, as required.

   For more information refer to Chapter 3, Field Record Keeping.

   If the jobs came from the mobile mapping software, the *Job Properties* dialog appears, with a summary of the job data.

5. Make changes here, as required.



Once the jobs are read into the software, they appear in the *Jobs* tab and are associated with the correct field(s).

Jobs
Map
Weather
Invoices
View
Job Name
Date
Client
Farm
Field
Soil Test 10/26/2011 Day III, Inc Home Home #7
Soil Test 2/29/2012 Day III, Inc Home Home #7
DY #1 - Application 3/7/2012 D & Y Seed Com... D & Y Seed DY #1
Smith #5 - Land preparation 3/13/2012 Johnny Smith Smith Farms Smith #5
planting 4/21/2012 Johnny Smith Smith Farms Smith #20
DY #1 - Planting/Seeding 5/15/2012 D & Y Seed Com... D & Y Seed DY #1
Home #1 - Planting/Seeding 5/15/2012 Day III, Inc Home Home #1
Home #6 - Planting/Seeding 5/15/2012 Day III, Inc Home Home #6
Smith #9 Planting/Seeding 5/30/2012 Johnny Smith Smith Farms Smith #9
13 - Harvesting 10/5/2012 Johnny Smith Smith Farms Smith #20
DY #1 - Harvesting 11/15/2012 D & Y Seed Com... D & Y Seed DY #1
Smith #9 - Harvesting 11/23/2012 Johnny Smith Smith Farms Smith #9

For more information, see Chapter 3, Field Record Keeping.

Previous files

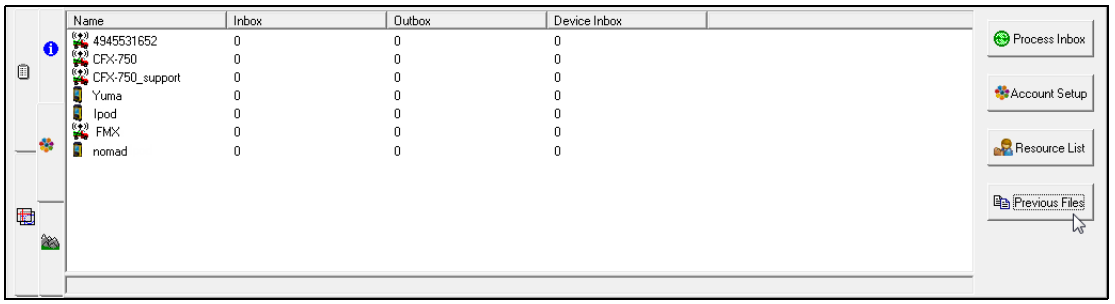
This option reprocesses jobs that were previously read into the software using Office Sync (from the *Connected Farm* tab of the Farm Works software). This enables you to read jobs into more than one Farm Works project and installation so that data can be shared with different parties.

This feature will only support files transferred from the following devices:

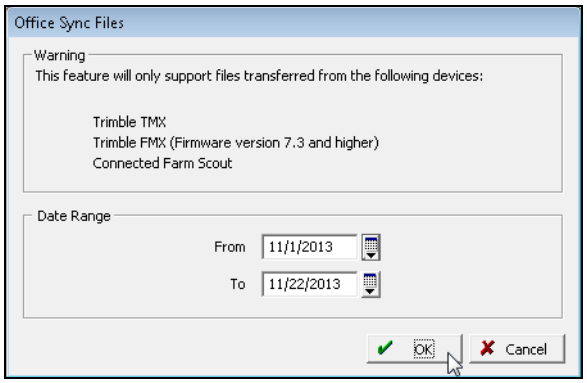
- Trimble TMX-2050™ display
- Trimble FmX integrated display (firmware version 7.3 or higher)
- Connected Farm scout app

To use this feature:

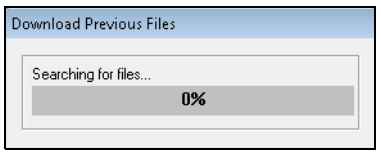
1. In the *Office Sync* tab, click **Previous Files**.

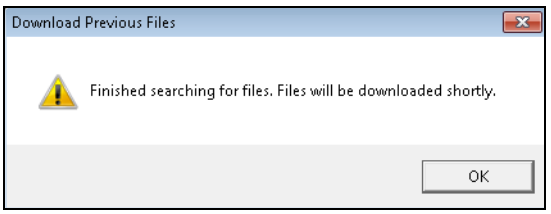


2. In the *Office Sync Files* dialog, enter the *Date Range* that the jobs fall within and then click **OK**.



Another dialog appears to show the program's file searching progress. A message appears when the files are available.





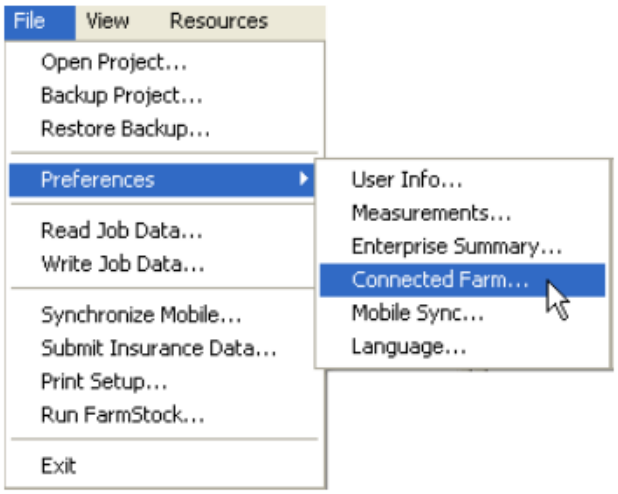
The reprocessed jobs are listed in the *Inbox* for that particular device waiting for the user to process the inbox. See also Processing the Inbox, page 287.

Using the VarioDoc account

This section describes how to access and use the Farm Works Software solutions and the Trimble Connected Farm software to access data collected using the Agco VarioDoc system.

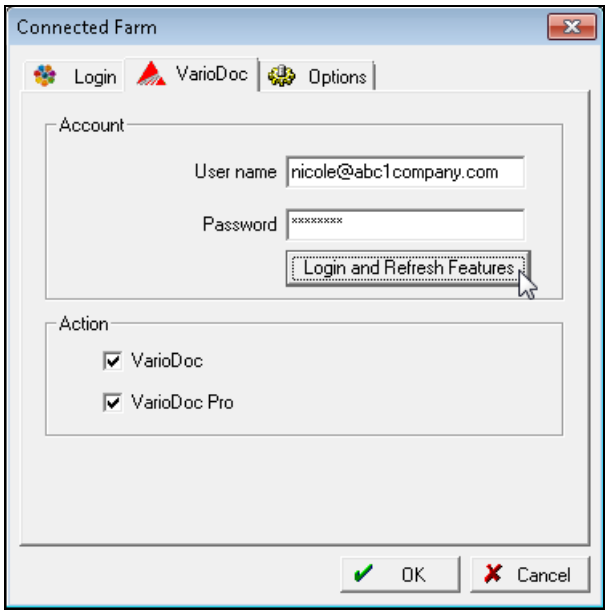
Logging in to the VarioDoc account in the Farm Works Software solutions

1. In the Farm Works software, select *File / Preferences / Connected Farm*.

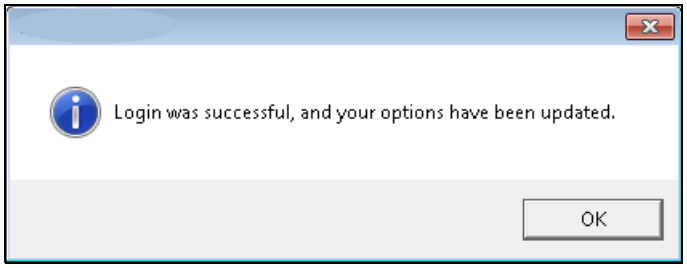


2. In the *Connected Farm* screen, select the *VarioDoc* tab and then enter your *User name* and *Password*.

The *User name* and *Password* are provided by AGCO for the VarioDoc Pro system. For VarioDoc (Basic with Bluetooth® only) the customer can select this. Make sure that the user name and password entered in the software match the entry that was used in the VarioDoc Manager.



3. Select one of the following, depending on what you purchased:
   - *VarioDoc* - enables you to transfers non-GPS records using Bluetooth® wireless technology.
   - *VarioDoc Pro* - enables to you to transfer field records and GPS maps using a cellular modem.
4. Click **Login and Refresh Features**. The system verifies your User name and Password and confirms that the login was successful.



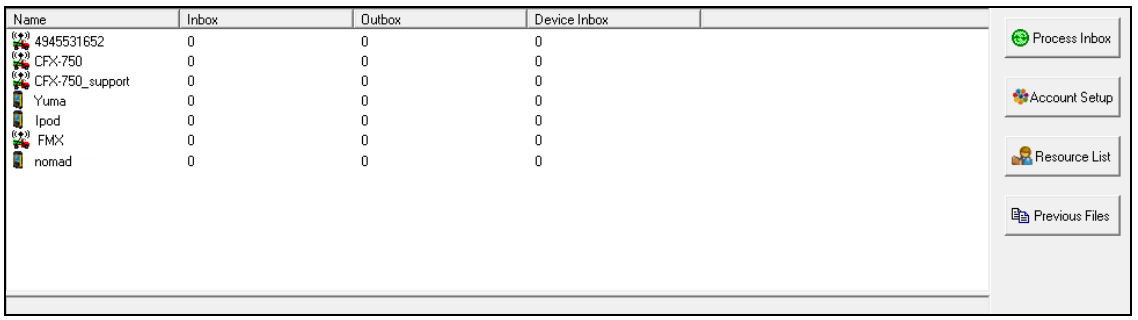
5. Click **OK** to confirm your changes.

Note – *You need to enter this information only once, unless you have to reinstall the software from scratch, for example, after a computer failure or on a new machine.*

Note – *This documentation refers to VarioDoc data being sent via servers as is done with the VarioDoc Pro system. When VarioDoc (Basic with Bluetooth only) is used, data is sent from the display the computer using Bluetooth® wireless technology. This does not involve the use of a server.*

Connected Farm tab

The *Connected Farm* tab in the Farm Works Mapping software shows all the remote devices that are linked via the Connected Farm software. This includes devices used with the Agco VarioDoc application.



The following information is shown for each device:

Column	Description
Name	The name of each device. The name is the Vehicle Identification Number for the tractor that VarioDoc is being used on.
Inbox	The number of jobs completed on the mobile device, uploaded to the VarioDoc servers and sent via the Connected Farm software to be downloaded to your computer hard drive. These jobs are not added to your project until you click **Process Inbox**. Jobs are then removed from the *Inbox* and added to your project.
Outbox	To upload resources (Clients, Farms, Fields, Inputs, and A/B lines) to the VarioDoc servers via the Connected Farm software, click **Resource List**. The resources remain in the *Outbox* until they are sent to the VarioDoc server (typically, once a minute). If your desktop computer is not currently connected to the Internet, jobs remain in the *Outbox* until a connection is established.
Device Inbox	Once Resources or Work Orders are sent to the VarioDoc server, they are assigned to the *Inbox* for a specific device. They stay in the *Device Inbox* until that device has a valid wireless connection and is communicating with the VarioDoc server, at which time it downloads the items.

To sort the mobile devices list, click a column header as follows:

Header	Action
Name	Devices are sorted alphabetically according to their device name. To reverse the order, click the heading again.
Inbox Outbox Device Inbox	Devices are sorted according to the number of jobs in that category: Those with the least number of jobs are listed first. To reverse the order, click the heading again.

Uploading resources

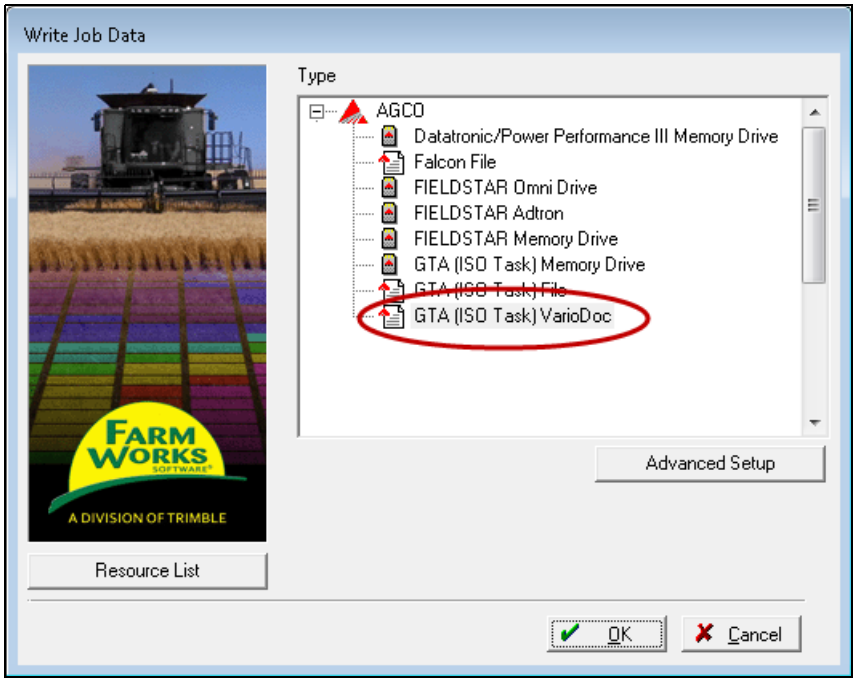
Use the desktop software to create resources. Resources include:

- Clients, farms, and fields.
- Inputs, such as supplies and equipment.

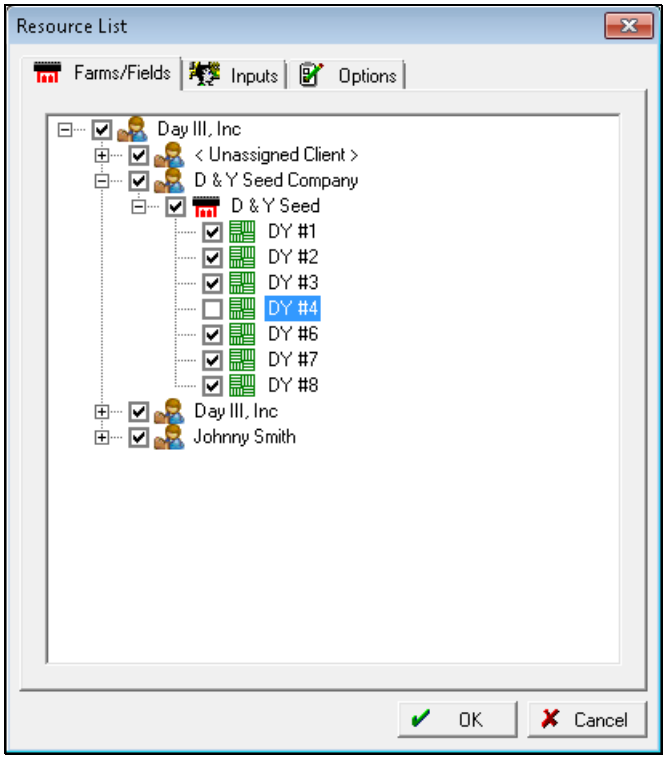
You can also use this option to limit which resources are uploaded, which is useful if, for example, you want to load only the fields for a certain client or farm that will be worked.

1. Do one of the following:
   - Click the Write Job Data icon .
   - Select *File / Write Job Data*.

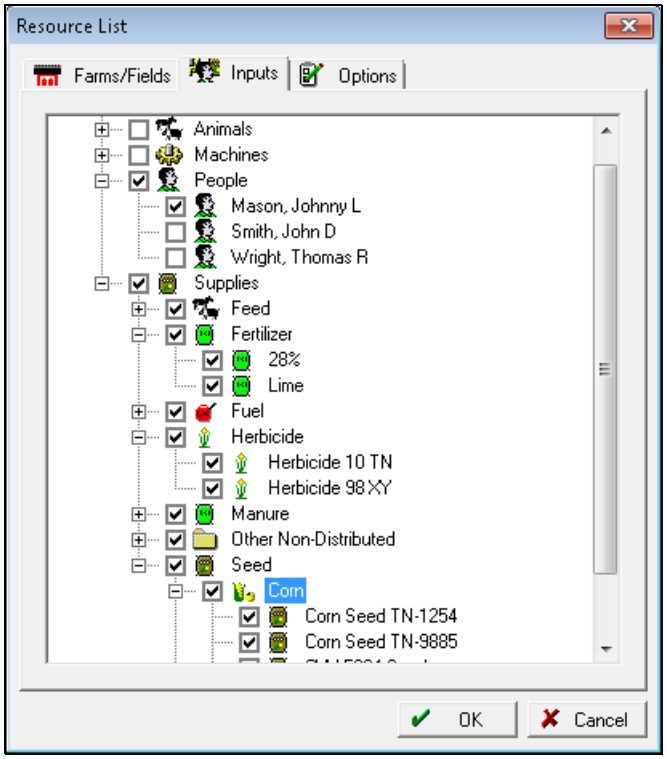
   The *Write Job Data* dialog shows third-party controllers and monitors to which you can write VRA maps, inputs, field names, and boundaries.
2. From the *AGCO* option, select *Agco (ISO Task) VarioDoc* and then click **Resource List**.



3. In the *Farms/Fields* tab, select the check boxes for the *Clients/Farms/Fields* that you want to upload.



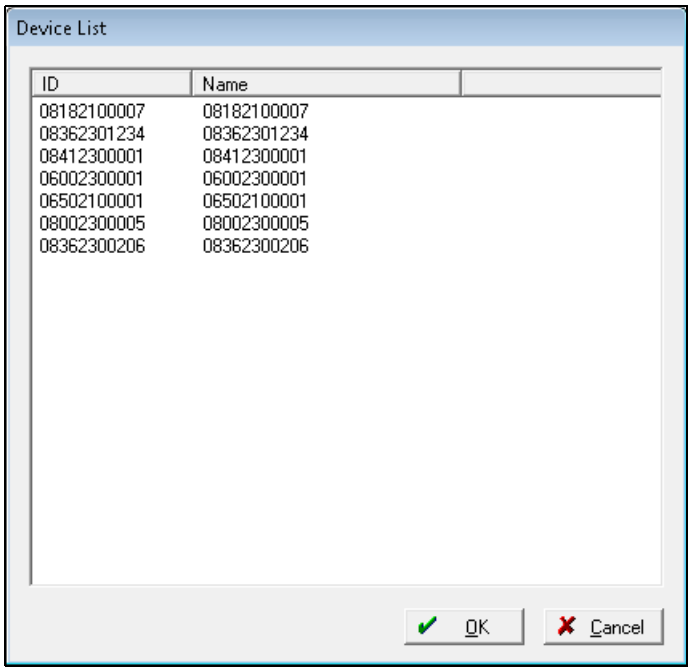
4. In the *Inputs* tab, select the checkboxes for the *People/Equipment/Supplies* that you want to upload.



5. Click **OK** to return to the *Resource List* and then click **OK** again to return to the main *Write Job Data* screen.

6. Click **OK** in the *Write Job Data* screen.

7. Select the Mobile Device(s) to upload the resources to and then click **OK**.

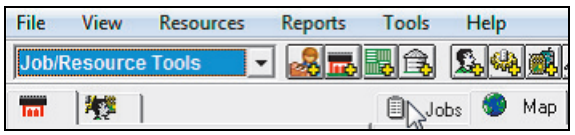


The selected resources are added to the *Outbox* for the mobile devices that you selected. As soon as the software communicates with the server (typically, once a minute when you have Internet access), the data is uploaded and moved to the *Device Inbox* where it stays until the mobile device downloads the resources.

Sending a Work Order

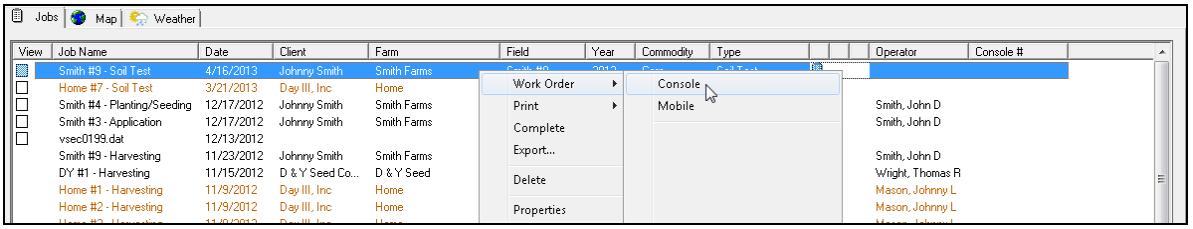
A Work Order consists of a planned job to be performed on selected fields. It can include people, equipment, supplies, and maps (such as variable rate and target soil sample maps).

1. Select the *Jobs* tab:



2. Select the planned job(s) that you want to send. To select multiple jobs, hold down the computer Ctrl key as you click each job. Planned jobs appear in brown text.

3. Right-click the jobs, select *Work Order* and then select the *Console*:



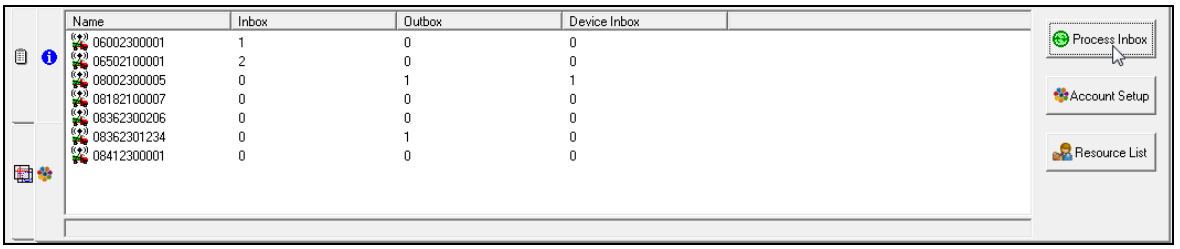
4. To send the planned job to the console, complete the procedure described in Uploading resources, page 283.

Processing the Inbox

As mobile devices complete jobs, they are uploaded to the VarioDoc server. These jobs are downloaded as they are completed and are saved in the *Device Inbox*. This data can then be processed and imported so that you can print reports or maps, and analyze the data.

To process the *Inbox* and read the job data into the software:

1. In the *Connected Farm* tab, click **Process Inbox**.



   If the jobs being imported include any new items such as Clients, Farms, Fields, or Inputs, the *Linker* dialog appears. The *Operation Resources* list shows the name of the item as it was entered on the mobile device. The *Desktop Resources* list shows available resources as they were set up in the desktop software.

2. To link these lists, select the appropriate item in each list and then click **<-Link->.**
3. Before you click **Create**, do one of the following:
   - To use an existing *Client* or *Farm*, select it from the *Desktop Resources* list.
   - If the item is new, select it from the *Operation Resources* list. In the *Client/Farm* and *Field Properties* dialogs that appear, enter information to create a new *Client*, *Farm*, and *Field*.
4. Once the jobs are read into the software, they appear in the *Jobs* tab and are associated with the correct field(s).

CHAPTER 7

Synchronizing Data with the Mobile Software

In this chapter:

- Marking planned jobs as work orders to the Mobile software
- Synchronizing with the Mobile software
- Synchronizing GreenSeeker® data from the Mobile software

This chapter describes how to synchronize information to and from a device running the mobile mapping software.

Marking planned jobs as work orders to the Mobile software

You can write jobs specifically to be used with the Mobile software. Once you synchronize with a field computer (for example, a Juno® or Nomad® series handheld or a Yuma® tablet computer), you can open and complete any planned jobs in the field.

Note – *Only a* ***planned job*** *can be written as a work order.*

1. Create a planned job. See Creating a planned job, page 63 and Creating VRA maps, page 252.
2. In the *Jobs* tab, scroll to the job or use the sorting and filtering options to find the job(s). See Finding a job in the Jobs tab, page 79. Planned jobs have orange text and the Planned icon .
3. Select the job(s).
4. Right-click any selected job and then select *Work Order / Mobile*.

Jobs
Map
Weather
Invoices
View
Job Name
Date
Client
Farm
Field
Year
Commodity
Type
Home #1 3/5/2012 Day III, Inc Home Home #1 2012 Corn
Home #1 - Application 3/29/2012 Day III, Inc Home Home #1 2012 Soybean
Home #7 - Application Day III, Inc Home Home #7 2012 Soybean
Home #10 - Application Day III, Inc Home Home #7 2012 Soybean
DY #6 - Application D & Y Seed Com... D & Y Seed DY #6 2012 Soybean
Smith #9 - Application 7/21/2012 Johnny Smith Smith Farms Smith #9 2012 Corn
Smith #9 - Soil Test 10/31/2012 Johnny Smith Smith Farms Smith #9 2012 Corn
Soil Test 10/26/2011 Day III, Inc Home Home #7 2012 Corn
Soil Test 2/29/2012 Day III, Inc Home Home #7 2012 Soybean
DY #1 - Application 3/7/2012 D & Y Seed Com... D & Y Seed DY #1 2012 Corn
Smith #5 - Land preparation 3/13/2012 Johnny Smith Smith Farms Smith #5 2012 Corn
Work Order
Print
Complete
Export...
Delete
Properties
Console
Mobile

The Export icon is added to each planned job you select. After you synchronize with the Mobile software, the export icon is removed from the jobs. You can mark a job for export (as a work order) and synchronize as many times as required.

Synchronizing with the Mobile software

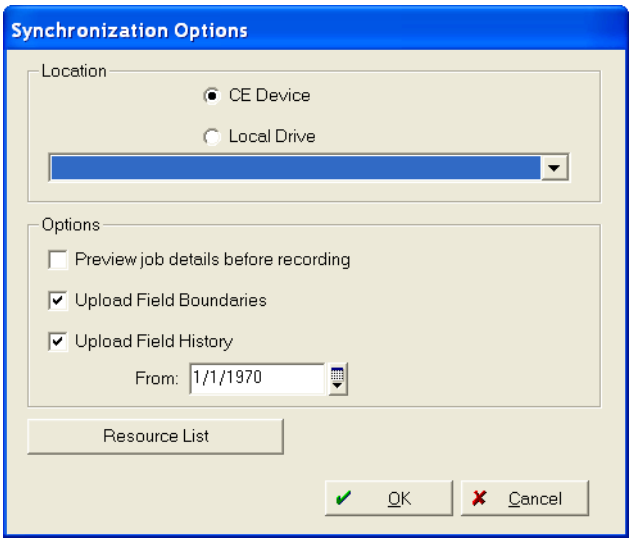
The process of exchanging data between the field and desktop software is called synchronizing. This process updates crop records on the desktop with those entered in the field, and updates the field software with any new items added to the list of fields, equipment, or supplies. Any planned jobs created in the desktop software are also updated.

To synchronize more than one project, you must complete the synchronization process while you are within an individual project in the desktop software.

The software allows you to synchronize more than one client's information. Only clients that are selected from the resource list are synchronized when the process is complete.

1. Make sure that the field software is not running on the mobile device.
2. Use ActiveSync® technology or the Windows Mobile® Device Center to create a partnership between the handheld computer and the office computer.

   Alternatively, insert a USB drive into a USB port on your office computer.
3. Select *File / Synchronize Mobile* or click the Synchronize icon .

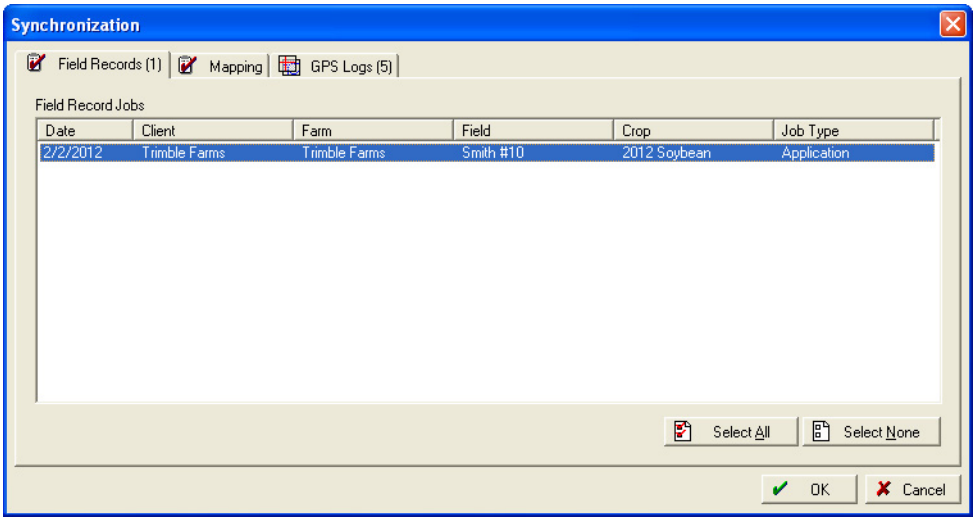


4. In *Location:*
   - Select *CE Device* if you are synchronizing with a handheld computer, or select *Local Drive* if you are synchronizing with a USB drive.
   - From the drop-down list, select the location where you are synchronizing to. Select:
     CE Main Memory to use the main memory of the connected handheld computer. (This is volatile memory that can be lost if the handheld computer's battery discharges. New handhelds will not lose files if the battery is discharged.)
     CE SD Card to use the removable storage card of the connected handheld computer. This is the recommended option.
     The drive for the USB drive to use the removable drive for use with devices that do not communicate using ActiveSync technology.

5. In *Options*, select one or more of the following:
   - *Preview job details before recording:* To view or edit the operation before the synchronization process is complete. If selected, the *Farming* field appears, from where you can view or edit the farming operation.

Note – *This is only for jobs completed on the handheld that are being synchronized with the desktop program.*

   - *Upload Field Boundaries*: To view field boundaries as a background map in the field software. (Applies only if the Mobile software is installed.)
   - *Upload Field History:* When the Mobile software is used, this uploads field history from the selected date forward. The history includes a brief summary of each job, including supplies used, rate, date, cost, and notes. You must also select a date in the *From* field.
6. Click **Resource List** to limit the Clients, Farms, Fields, and Inputs written for use with the field software.
7. Click **OK**.



The *Synchronization* screen lists any jobs that were entered using the Mobile software:

   - The *Field Records* tab lists jobs that were completed using the Field Record Job option in the mobile mapping software.
   - The *Mapping* tab lists jobs that were completed using the New Mapping Job, New Sensor Job, and so on.
   - The *GPS Logs* tab lists New Mapping Jobs, New Sensor Jobs, and so on that were completed and that did not use the automatic file naming option.
8. Select the jobs that you want to synchronize for each tab. Click **Select All** to select all jobs, or **Select None** to clear all listed jobs.
9. Click **OK**.

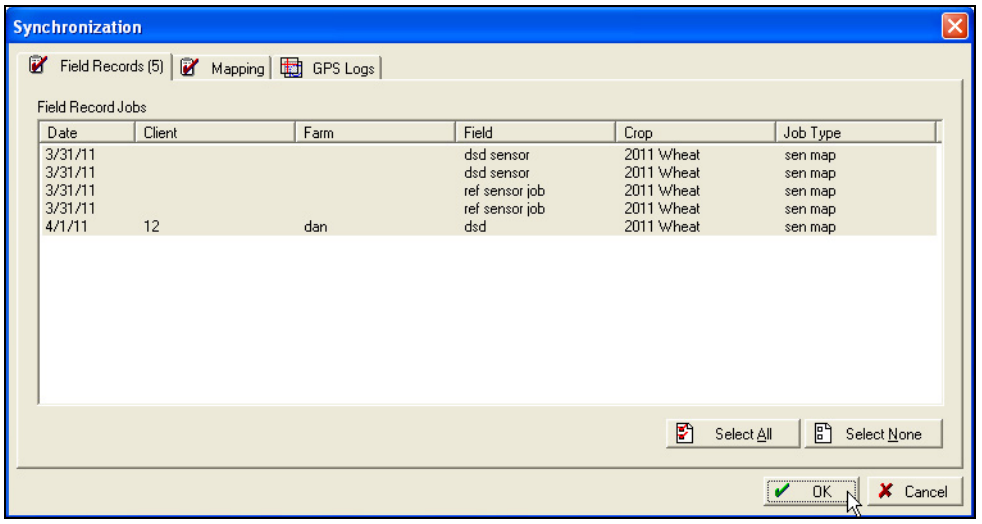
Completed jobs appears in the *Jobs* tab in black; planned jobs that were marked for export are exported to the handheld or USB drive for use within the Mobile software as work orders.

Synchronizing GreenSeeker® data from the Mobile software

1. Select *File / Synchronize Mobile* or click the Synchronize icon .
2. In *Location:*
   - Select *CE Device* if you are synchronizing with a handheld computer, or select *Local Drive* if you are synchronizing with a USB drive.
   - From the drop-down list, select the location where you are synchronizing to. Select:
     CE Main Memory to use the main memory of the connected handheld computer. (This is volatile memory that can be lost if the handheld computer's battery discharges. New handhelds will not lose files if the battery is discharged.)
     CE SD Card to use the removable storage card of the connected handheld computer. This is the recommended option.
     The drive for the USB drive to use the removable drive for use with devices that do not communicate using ActiveSync technology.
3. In *Options*, select *Preview job details before recording:* To view or edit the operation before the synchronization process is complete. Once selected, the *Farming* field appears, from where you can view or edit the farming operation.

Note – *This is only for jobs completed on the handheld that are being synchronized with the desktop program.*

4. Click **OK**.

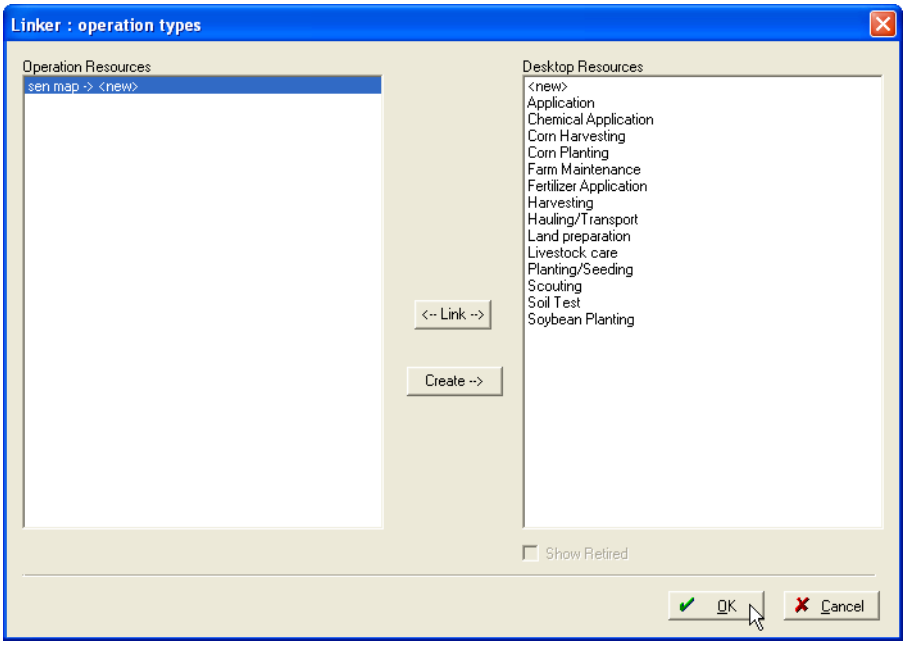


The *Synchronization* dialog lists any jobs that were entered using the Mobile software.

- The *Field Records* tab lists jobs that were completed using the Field Record Job option in the mobile mapping software.
- The *Mapping* tab lists jobs that were completed using the New Mapping Job, New Sensor Job, and so on.
- The *GPS Logs* tab lists New Mapping Jobs, New Sensor Jobs, and so on that were completed and that did not use the automatic file naming option.

5. Select the jobs that you want to synchronize for each tab. Click **Select All** to select all jobs, or **Select None** to clear all listed jobs.
6. Click **OK**.

   The *Linker* dialog appears. This links resources used during the operation with resources on the desktop computer. Any new fields are also added here.



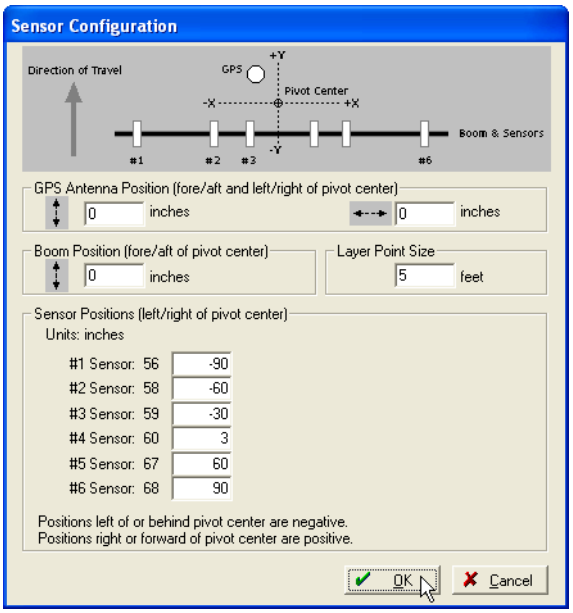
   When importing jobs from a data file, some resources and job entry items may not exist in the desktop software. For example, when entering a resource in the field, you may enter a different name from that used in the office. When you import jobs, the *Linker* dialog either creates new resources or links them with current ones. If they are linked, the software assumes that the two different items are the same.

   The *Linker* dialog shows two lists. Items that appear in the *Operation Resources* list must be created or linked with items that appear in the *Desktop Resources* list. For more information, see Linking resources when synchronizing or importing jobs, page 84.

7. Once all items are linked or created, click **OK**.
8. The *Farming* dialog appears. Enter any information necessary for the farming operation(s) and then click **OK**.

Note – *You can also edit jobs later in the Jobs tab. For more information, see* *Marking planned jobs as work orders to the Mobile software, page 301*.

9. In the *Sensor Configuration* screen, enter the correct sensor settings for the following:



   - GPS Antenna Position
   - Boom Position
   - Layer Point Size
   - Sensor Positions (left or right of center)

10. You are prompted to enter the configuration settings for each job that is selected for import. When you have done this, click **OK**.

    The GreenSeeker maps are added to *Jobs* under the appropriate *Farm* and *Field*.

11. To view the imported map:
    a. Make sure that *Show Jobs In Land Areas* is selected on the *View* menu.
    b. Select the *Map* tab.
    c. In the *Farm* tab, locate the job under the applicable *Farm* and *Field*.